

AIR QUALITY ASSESSMENT

Sweetwater Place Residential Development
PDS2014-GPA-14-003, PDS2014-REZ14-003, PDS2014-TM5588,
PDS2014-STP-14-015 County of San Diego, CA

Lead Agency:

County of San Diego
Planning and Development Services
Contact: Robert Hingtgen
5510 Overland Ave, Ste 110
San Diego, CA 92123

Prepared By:

Jeremy Louden
Ldn Consulting, Inc.
42428 Chisolm Trail
Murrieta, CA 92562

Prepared For:

Sam-Sweetwater, LLC
20201 SW Birch St., Suite 100
Newport Beach, CA 92660

July 2015

TABLE OF CONTENTS

TABLE OF CONTENTS.....	II
LIST OF FIGURES.....	III
LIST OF TABLES	III
APPENDIX	III
LIST OF ACRONYMS.....	IV
EXECUTIVE SUMMARY.....	V
1.0 INTRODUCTION	1
1.1 PURPOSE OF THIS STUDY	1
1.2 PROJECT LOCATION	1
1.3 PROJECT DESCRIPTION	1
2.0 EXISTING ENVIRONMENTAL SETTING.....	4
2.1 EXISTING SETTING	4
2.2 CLIMATE AND METEOROLOGY	4
2.3 REGULATORY STANDARDS.....	4
2.3.1 FEDERAL STANDARDS AND DEFINITIONS	4
2.3.2 STATE STANDARDS AND DEFINITIONS.....	6
2.3.3 REGIONAL STANDARDS.....	8
2.4 CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) SIGNIFICANCE THRESHOLDS.....	9
2.5 SDAPCD RULE 20.2 – AIR QUALITY IMPACT ASSESSMENT SCREENING THRESHOLDS	10
2.6 LOCAL AIR QUALITY.....	11
3.0 METHODOLOGY.....	14
3.1 CONSTRUCTION EMISSIONS CALCULATIONS.....	14
3.2 CONSTRUCTION ASSUMPTIONS.....	14
3.3 OPERATIONAL EMISSIONS.....	15
3.4 MICRO SCALE OPERATIONAL EMISSIONS	16
3.5 ODOR IMPACTS (ONSITE)	17
4.0 FINDINGS.....	18
4.1 CONSTRUCTION FINDINGS	18
4.2 HEALTH RISK.....	18
4.3 OPERATIONAL FINDINGS.....	20
4.4 CUMULATIVE IMPACT FINDINGS.....	21
4.5 CONCLUSION OF FINDINGS.....	22
5.0 CERTIFICATIONS	24

List of Figures

FIGURE 1-A: PROJECT VICINITY MAP	2
FIGURE 1-B: PROPOSED PROJECT SITE PLAN	3
FIGURE 2-A: AMBIENT AIR QUALITY MONITORING STATIONS WITHIN SDAB – CARB	12
FIGURE 4-A: WORST CASE DPM CONSTRUCTION CONTOUR	22

List of Tables

TABLE 2.1: AMBIENT AIR QUALITY STANDARDS	7
TABLE 2.2: SAN DIEGO COUNTY AIR BASIN ATTAINMENT STATUS BY POLLUTANT	9
TABLE 2.3: SCREENING THRESHOLD FOR CRITERIA POLLUTANTS	10
TABLE 2.4: THREE-YEAR AMBIENT AIR QUALITY SUMMARY NEAR THE PROJECT SITE	13
TABLE 3.1: EXPECTED CONSTRUCTION EQUIPMENT	15
TABLE 4.1: EXPECTED CONSTRUCTION EMISSIONS SUMMARY	18
TABLE 4.2: EXPECTED DAILY POLLUTANT GENERATION (SUMMER)	20
TABLE 4.3: EXPECTED DAILY POLLUTANT GENERATION (WINTER).....	21

Appendix

CALEEMOD 2013 (SUMMER, WINTER, ANNUAL)	25
SCREEN3	115

LIST OF ACRONYMS

Air Quality Impact Assessments (AQIA)
Assembly Bill 32 (AB32)
California Air Resource Board (CARB)
California Ambient Air Quality Standards (CAAQS)
California Environmental Quality Act (CEQA)
Carbon Dioxide (CO₂)
Cubic Yards (CY)
Diesel Particulate Matter (DPM)
Environmental Protection Agency (EPA)
EPA Office of Air Quality Planning and Standards (OAQPS)
Hazardous Air Pollutants (HAPs)
Hydrogen Sulfide (H₂S)
International Residential Code (IRC)
Level of Service (LOS)
Low Carbon Fuel Standard (LCFS)
Methane (CH₄)
National ambient air quality standards (NAAQS)
Nitrous Oxide (N₂O)
North County Transit District (NCTD)
Reactive Organic Gas (ROG)
Regional Air Quality Strategy (RAQS)
San Diego Air Basin (SDAB)
San Diego Air Pollution Control District (SDAPCD)
South Coast Air Quality Management District (SCAQMD)
Specific Plan Area (SPA)
State Implementation Plan (SIP)
Toxic Air Contaminants (TACs)
Vehicle Miles Traveled (VMT)

EXECUTIVE SUMMARY

This air quality impact study has been completed to determine the air quality impacts associated with the development of the proposed Sweetwater Village residential development. The Project proposes the development of a 20 acre lot which was previously used as an agricultural nursery site with 122 condominium style residential and a 1.53-acre park. Grading is proposed to start sometime in the beginning of 2016 with full build out in August of 2017.

Based upon our analysis, no fugitive dust impacts are expected during construction and mitigation is not required under CEQA.

Based upon our health risk analysis, it was found that up to 1.685 persons out of 1 million individuals could develop cancer if exposed to the peak emissions for the entire duration of 398 days. Given this, the following mitigation recommendation would bring this impact to less than significant:

- *Utilize either diesel particulate filters to retrofit existing equipment or use Tier 2 Equipment. This requirement would meet T-BACT requirements.*

Operational impacts are expected if regular wood burning hearths are installed. To reduce impacts to below significance the following mitigation measure is required.

- *Only natural gas hearths shall be installed within residential units if hearth options are offered.*

The proposed project seeks to modify the existing land use designated as RL-80 (Rural Lands) to a Village Residential (VR-7.3) designator which would increase density; However, SANDAG expects housing growth within the Spring Valley area is to add 1,398 housing units between 2015 and 2030 and even more through 2050. Since the project only seeks to add 122 units, no impacts to the RAQS or SIP are expected.

No concurrent large construction projects are expected to be under construction simultaneously to the proposed project so cumulative construction impacts are not expected.

1.0 INTRODUCTION

1.1 Purpose of this Study

The purpose of this Air Quality study is to determine potential air quality impacts (if any) that may be created by construction, area or operational emissions (short term or long term) from the proposed Project. Should impacts be determined, the intent of this study would be to recommend suitable mitigation measures to bring those impacts to a level that would be considered less than significant.

1.2 Project Location

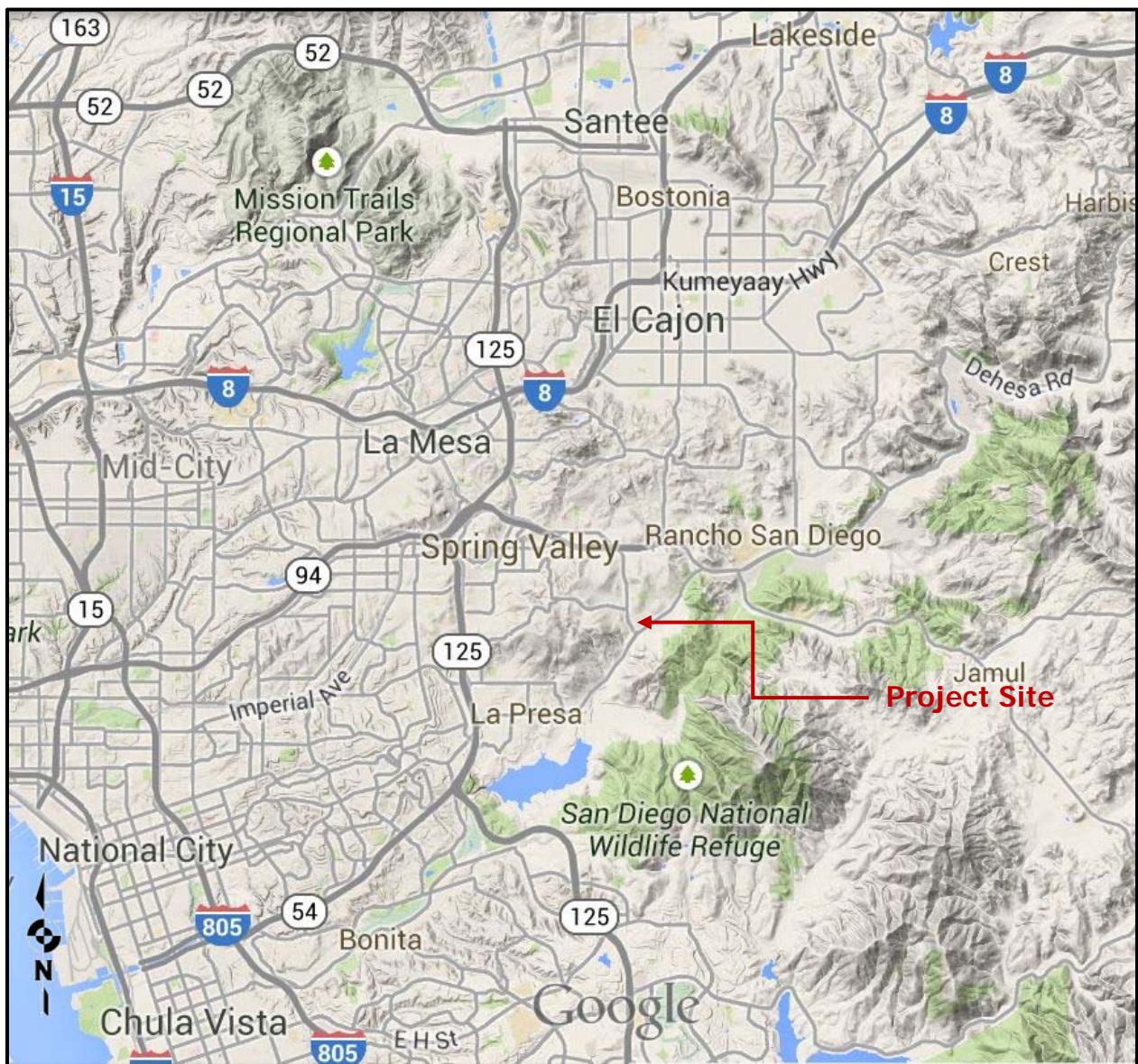
The proposed development is located in the unincorporated County of San Diego. The project site is located on the northeast corner of the Sweetwater Springs Boulevard/Jamacha Boulevard (SR-54) intersection in the County of San Diego. Access to the Project site is will be provided by both Sweetwater Springs Boulevard and by Jamacha Boulevard. A general project vicinity map is shown in Figure 1-A on the following page.

1.3 Project Description

The proposed project seeks the development of a 20 acre lot which was previously used as an agricultural nursery site with 122 condominium style residential and a 1.53-acre park. Grading is proposed to start sometime in 2016 with full build out in August of 2017. A site development plan is shown in Figure 1-B of this report.

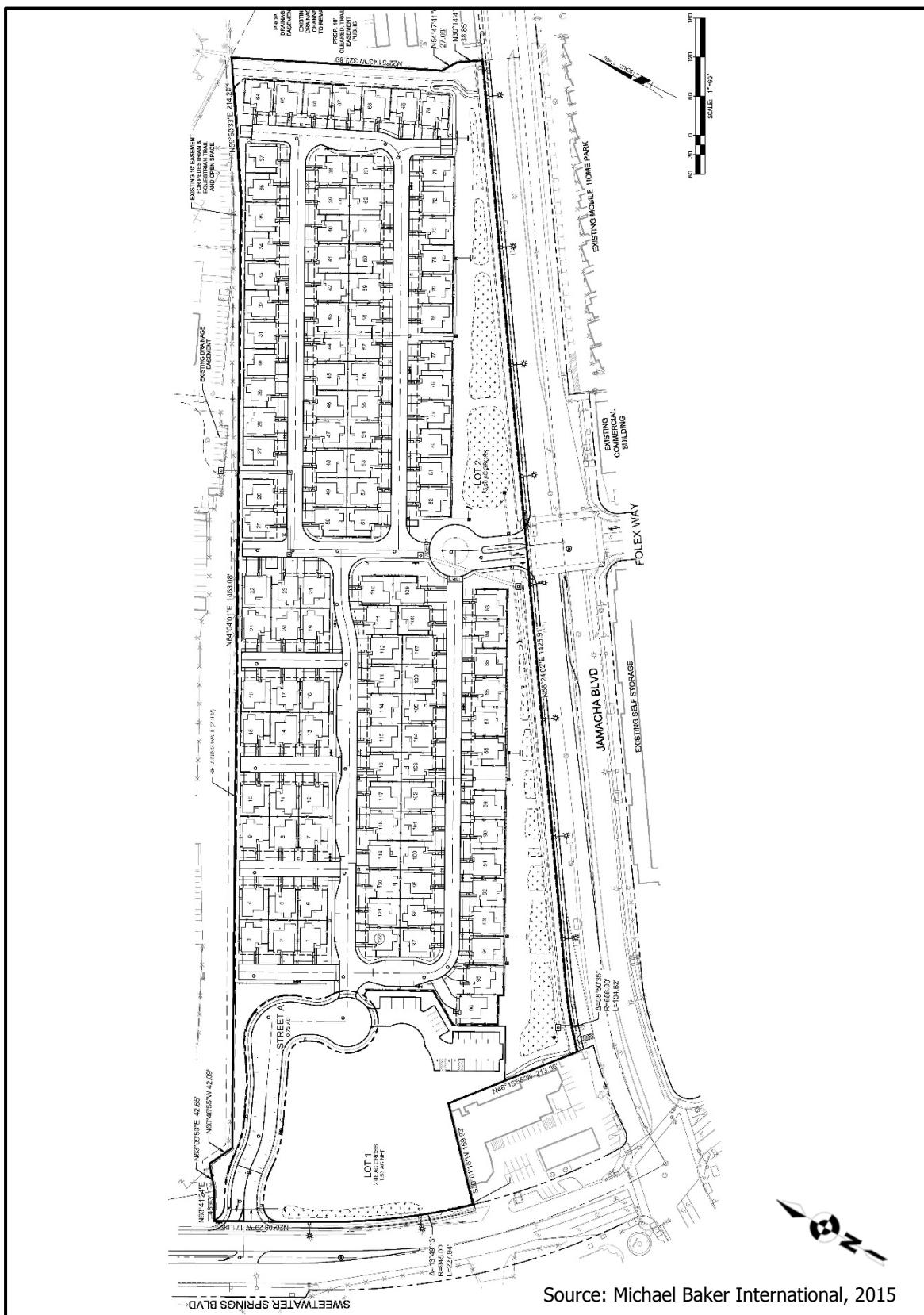
The existing County of San Diego General Plan land use designation is Public/Semi-Public with an underlying land use designation of RL-80 (Rural Lands). A General Plan Amendment (GPA) is required to change the current General Plan designator from RL-80 to a Village Residential (VR-7.3) designator.

Figure 1-A: Project Vicinity Map



Source: (Google, 2014)

Figure 1-B: Proposed Project Site Plan



Source: Michael Baker International, 2015

2.0 EXISTING ENVIRONMENTAL SETTING

2.1 Existing Setting

The Project site lies in the southeastern portion of San Diego County approximately 10 miles from east of the City of San Diego. The project site isn't currently being utilized but was historically used as a plant nursery. The plan area is generally represented by a generally flat sloped topography with elevations ranging from 450 feet on the western boundary to 490 feet above mean sea level on the eastern boundary. Land uses to the north east and west are generally commercial with residential uses to the south of the project site.

2.2 Climate and Meteorology

Climate within the San Diego Air Basin (SDAB) area often varies dramatically over short geographical distances with cooler temperatures on the western coast gradually warming to the east as prevailing winds from the west heat up. Most of southern California is dominated by high-pressure systems for much of the year, which keeps San Diego mostly sunny and warm. Typically, during the winter months, the high pressure system drops to the south and brings cooler, moister weather from the north. It is common for inversion layers to develop within high-pressure areas, which mostly define pressure patterns over the SDAB. These inversions are caused when a thin layer of the atmosphere increases in temperature with height. An inversion acts like a lid preventing vertical mixing of air through convective overturning.

Meteorological trends within the Spring Valley area generally show daytime highs ranging between 68°F in the winter to approximately 85°F in the summer with August usually being the hottest month. Median temperatures range from approximately 56°F in the winter to approximately 75°F in the summer. The average humidity is approximately 65% in the winter and about 74% in the summer (City-Data, 2015).

2.3 Regulatory Standards

2.3.1 Federal Standards and Definitions

The Federal Air Quality Standards were developed per the requirements of The Federal Clean Air Act, which is a federal law that was passed in 1970 and further amended in 1990. This law provides the basis for the national air pollution control effort. An important element of the act included the development of national ambient air quality standards (NAAQS) for major air pollutants.

The Clean Air Act established two types of air quality standards otherwise known as primary and secondary standards. **Primary Standards** set limits with the intention of protecting public health, which includes sensitive populations such as asthmatics, children and elderly. **Secondary Standards** set limits to protect public welfare to include the protection against decreased visibility, damage to animals, crops, vegetation and buildings.

The U.S. Environmental Protection Agency (EPA) Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for principal pollutants, which are called "criteria" pollutants. These pollutants are defined below:

1. **Carbon Monoxide (CO):** is a colorless, odorless, and tasteless gas and is produced from the partial combustion of carbon-containing compounds, notably in internal-combustion engines. Carbon monoxide usually forms when there is a reduced availability of oxygen during the combustion process. Exposure to CO near the levels of the ambient air quality standards can lead to fatigue, headaches, confusion, and dizziness. CO interferes with the blood's ability to carry oxygen.
2. **Lead (Pb):** is a potent neurotoxin that accumulates in soft tissues and bone over time. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Because lead is only slowly excreted, exposures to small amounts of lead from a variety of sources can accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms can include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children.
3. **Nitrogen Dioxide (NO₂):** is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is one of the nitrogen oxides emitted from high-temperature combustion, such as those occurring in trucks, cars, power plants, home heaters, and gas stoves. In the presence of other air contaminants, NO₂ is usually visible as a reddish-brown air layer over urban areas. NO₂ along with other traffic-related pollutants is associated with respiratory symptoms, respiratory illness and respiratory impairment. Studies in animals have reported biochemical, structural, and cellular changes in the lung when exposed to NO₂ above the level of the current state air quality standard. Clinical studies of human subjects suggest that NO₂ exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children.
4. **Particulate Matter (PM₁₀ or PM_{2.5}):** is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary in shape, size and chemical composition, and can be made up of multiple materials such as metal, soot, soil, and dust. PM₁₀ particles are 10 microns (μm) or less and PM_{2.5} particles are 2.5 μm or less. These particles can contribute significantly to regional haze and reduction of visibility in California. Exposure to PM levels exceeding current air quality standards increases the risk of allergies such as asthma and respiratory illness.

5. **Ozone (O_3):** is a highly oxidative unstable gas capable of damaging the linings of the respiratory tract. This pollutant forms in the atmosphere through reactions between chemicals directly emitted from vehicles, industrial plants, and many other sources. Exposure to ozone above ambient air quality standards can lead to human health effects such as lung inflammation, tissue damage and impaired lung functioning. Ozone can also damage materials such as rubber, fabrics and plastics.
6. **Sulfur Dioxide (SO_2):** is a gaseous compound of sulfur and oxygen and is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment. SO_2 is also emitted from several industrial processes, such as petroleum refining and metal processing. Effects from SO_2 exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Children, the elderly, and people with asthma, cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most susceptible to these symptoms. Continued exposure at elevated levels of SO_2 results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.

2.3.2 State Standards and Definitions

The State of California Air Resources Board (ARB) sets the laws and regulations for air quality on the state level. The California Ambient Air Quality Standards (CAAQS) are either the same as or more restrictive than the NAAQS and also restrict four additional contaminants. Table 2.1 on the following page identifies both the NAAQS and CAAQS. The additional contaminants as regulated by the CAAQS are defined below:

1. **Visibility Reducing Particles:** Particles in the Air that obstruct the visibility.
2. **Sulfates:** are salts of Sulfuric Acid. Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. They increase the acidity of the atmosphere and form acid rain.
3. **Hydrogen Sulfide (H_2S):** is a colorless, toxic and flammable gas with a recognizable smell of rotten eggs or flatulence. H_2S occurs naturally in crude petroleum, natural gas, volcanic gases, and hot springs. Usually, H_2S is formed from bacterial breakdown of organic matter. Exposure to low concentrations of hydrogen sulfide may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Brief exposures to high concentrations of hydrogen sulfide (greater than 500 ppm) can cause a loss of consciousness and possibly death.
4. **Vinyl Chloride:** also known as chloroethene and is a toxic, carcinogenic, colorless gas with a sweet odor. It is an industrial chemical mainly used to produce its polymer, polyvinyl chloride (PVC).

Table 2.1: Ambient Air Quality Standards

Ambient Air Quality Standards								
Pollutant	Average Time	California Standards ¹		Federal Standards ²				
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷		
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry		
	8 Hour	0.070 ppm (137 µg/m ³)		0.075 ppm (147 µg/m ³)				
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis		
	Annual Arithmetic Mean	20 µg/m ³		-				
Fine Particulate Matter PM2.5	24 Hour	No Separate State Standard		35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis		
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³				
Carbon Monoxide (CO)	8 hour	9.0 ppm (10mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	-	Non-Dispersive Infrared Photometry		
	1 hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)				
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		-				
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³) ⁸	Same as Primary Standard	Gas Phase Chemiluminescence		
	1 Hour	0.18 ppm (339 µg/m ³)		0.100 ppm ⁸ (188/ µg/m ³)				
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	-	Ultraviolet Fluorescence	0.030 ppm (for Certain Areas)	-	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method) ⁹		
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for Certain Areas) (See Footnote 9)				
	3 Hour	-		-				
	1 Hour	0.25 ppm (655 µg/m ³)		75 ppb (196 µg/m ³)				
Lead ¹⁰	30 Day Average	1.5 µg/m ³	Atomic Absorption	-	Same as Primary Standard	High Volume Sampler and Atomic Absorption		
	Calendar Quarter	-		1.5 µg/m ³				
	Rolling 3-Month Average	-		0.15 µg/m ³				
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07 -30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape						
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography					
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence					
Vinyl Chloride ¹⁰	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography					

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing articles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 7020 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

8. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

9. On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

10. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

11. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

12. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: California Air Resources Board (6/4/13)

2.3.3 Regional Standards

The State of California has 35 specific air districts, which are each responsible for ensuring that the criteria pollutants are below the NAAQS and CAAQS. Air basins that exceed either the NAAQS or the CAAQS for any criteria pollutants are designated as "non-attainment areas" for that pollutant. Currently, there are 18 non-attainment areas for the federal ozone standard, 10 non-attainment areas for the federal PM₁₀ standard, and seven non-attainment areas for the federal PM_{2.5} standard in California. The state therefore created the California State Implementation Plan (SIP), which is designed to provide control measures needed for California Air basis to attain ambient air quality standards.

The San Diego Air Pollution Control District (SDAPCD) is the government agency which regulates sources of air pollution within San Diego County. Therefore, the SDAPCD developed a Regional Air Quality Strategy (RAQS) to provide control measures to try to achieve attainment status. Currently, San Diego is in "non-attainment" status for federal O₃ and the State PM₁₀ and PM_{2.5} however, an attainment plan is only available for O₃. The RAQS was adopted in 1992 and has been updated as recently as 2009 which was the latest update incorporating minor changes to the prior 2004 update.

The RAQS is largely based on population predictions by the San Diego Association of Governments (SANDAG). Projects that produce less growth than predicted by SANDAG would generally conform to the RAQS and projects that create more growth than projected by SANDAG may create a significant impact assuming the project either produces unmitigable emission generation in excess of the regional standards. Also the project would be considered a significant impact if the project produces cumulative impacts.

The 2009 update mostly clarifies and enhances emission reductions by implementing new VOC and NOX reduction measures. The criteria pollutant standards are generally attained when each monitor within the region has had no exceedances during the previous three calendar years. A complete listing of the current attainment status with respect to both federal and state nonattainment status by pollutants for San Diego County is shown in Table 2.2 on the following page.

Table 2.2: San Diego County Air Basin Attainment Status by Pollutant

San Diego County Air Basin Attainment Status by Pollutant			
Pollutant	Average Time	California Standards	Federal Standards
Ozone (O ₃)	1 Hour	Non-attainment	No Federal Standard
	8 Hour		Basic Non-attainment
Respirable Particulate Matter (PM10)	24 Hour	Non-attainment	Unclassified ¹
	Annual Arithmetic Mean	No State Standard	Unclassified ²
Fine Particulate Matter PM2.5	24 Hour	No State Standard	Attainment
	Annual Arithmetic Mean	Non-attainment	Attainment
Carbon Monoxide (CO)	8 hour	Attainment	Maintenance Area ³
	1 hour		
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	No State Standard	Attainment
	1 Hour	Attainment	No Federal Standard
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	No State Standard	Attainment
	24 Hour	Attainment	Attainment
	1 Hour	Attainment	No Federal Standard
Lead	30 Day Average	Attainment	No Federal Standard
	Calendar Quarter	No State Standard	Attainment
Visibility Reducing Particles	8 Hour (10AM to 6PM, PST)	Unclassified	No Federal Standard
Sulfates	24 Hour	Attainment	No Federal Standard
Hydrogen Sulfide	1 Hour	Unclassified	No Federal Standard

1. Data reflects status as of March 19, 2009.
 2. Unclassified; indicates data are not sufficient for determining attainment or nonattainment.
 3. Maintenance Area (defined by U.S. Department of Transportation) is any geographic region of the United States previously designated nonattainment pursuant to the CAA Amendments of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under section 175A of the CAA, as amended.

2.4 California Environmental Quality Act (CEQA) Significance Thresholds

The California Environmental Quality Act has provided a checklist to identify the significance of air quality impacts. These guidelines are found in Appendix G of the CEQA guidelines and are as follows:

AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:

- A:* Conflict with or obstruct implementation of the San Diego Regional Air Quality Strategy (RAQS) or applicable portions of the State Implementation Plan (SIP)?
- B:* Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation?

- C: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard (PM10, PM2.5 or exceed quantitative thresholds for O3 precursors, oxides of nitrogen [NOX] and Volatile Organic Compounds [VOCs])?
- D: Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations?
- E: Create objectionable odors affecting a substantial number of people?

2.5 SDAPCD Rule 20.2 – Air Quality Impact Assessment Screening Thresholds

The SDAPCD has established thresholds in Rule 20.2 for new or modified stationary sources; however, the County's Guidelines for Determining Significance and Report Format and Content Requirements should be used for Air Quality Impact Assessments (AQIA) for determining CEQA impacts. These screening criteria can be used to demonstrate that a project's total emissions would not result in a significant impact as defined by CEQA. Also, since SDAPCD does not have an AQIA threshold for Volatile Organic Compounds (VOCs), it is acceptable to use the Coachella Valley VOC threshold from South Coast Air Quality Management District. Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that the project's total air quality impacts are below the state and federal ambient air quality standards. These screening thresholds for construction and daily operations are shown in Table 2.3 below.

Table 2.3: Screening Threshold for Criteria Pollutants

Pollutant	Total Emissions (Pounds per Day)
Construction Emissions	
Respirable Particulate Matter (PM ₁₀ and PM _{2.5})	100 and 55
Nitrogen Oxide (NO _x)	250
Sulfur Oxide (SO _x)	250
Carbon Monoxide (CO)	550
Volatile Organic Compounds (VOCs)	75
Reactive Organic Gases (ROG) SCAQMD	75
Operational Emissions	
Respirable Particulate Matter (PM ₁₀ and PM _{2.5})	100 and 55
Nitrogen Oxide (NO _x)	250
Sulfur Oxide (SO _x)	250
Carbon Monoxide (CO)	550
Lead and Lead Compounds	3.2
Volatile Organic Compounds (VOCs)	75
Reactive Organic Gases (ROG) SCAQMD	75

Non Criteria pollutants such as Hazardous Air Pollutants (HAPs) or Toxic Air Contaminants (TACs) are also regulated by the SDAPCD. Rule 1200 (Toxic Air Contaminants - New Source Review) adopted on June 12, 1996, requires evaluation of potential health risks for any new, relocated, or modified emission unit which may increase emissions of one or more toxic air contaminants. The rule requires that projects that propose to increase cancer risk to between 1 and 10 in one million need to implement toxics best available control technology (T-BACT) or impose the most effective emission limitation, emission control device or control technique to reduce the cancer risk. At no time shall the project increase the cancer risk to over 10 in one million. At no time shall the project increase the cancer risk to over 10 in one million or a health hazard index (chronic and acute) greater than one. Projects creating cancer risks less than one in one million are not required to implement T-BACT technology.

The U.S. Environmental Protection Agency (U.S. EPA) uses the term Volatile Organic Compounds (VOC) and the California Air Resources Board's (CARB's) Emission Inventory Branch (EIB) uses the term Reactive Organic Gases (ROG) to essentially define the same thing. There are minor deviations between compounds that define each term however for purposes of this study we will assume they are essentially the same due to the fact SCAQMD interchanges these words and because CalEEMod directly calculates ROG in place of VOC.

2.6 Local Air Quality

Criteria pollutants are measured continuously throughout the San Diego Air Basin. This data is used to track ambient air quality patterns throughout the County. As mentioned earlier, this data is also used to determine attainment status when compared to the NAAQS and CAAQS.

The SDAPCD is responsible for monitoring and reporting monitoring data. The District operates 10 monitoring sites, which collect data on criteria pollutants. Four additional sites collect meteorological data which is used by the District to assist with pollutant forecasting, data analysis and characterization of pollutant transport. Figure 2-A below shows the relative locations of the ambient air quality monitoring sites.

SDAPCD published the five year air quality summary for all of the monitoring stations within the San Diego basin (SDAPCD, 2015). The proposed development project is closest to the El Cajon monitoring station which is located approximately 4.5 miles from the Project site. Table 2.4 on Page 13 identifies the criteria pollutants monitored at the aforementioned station.

Figure 2–A: Ambient Air Quality Monitoring Stations within SDAB – CARB

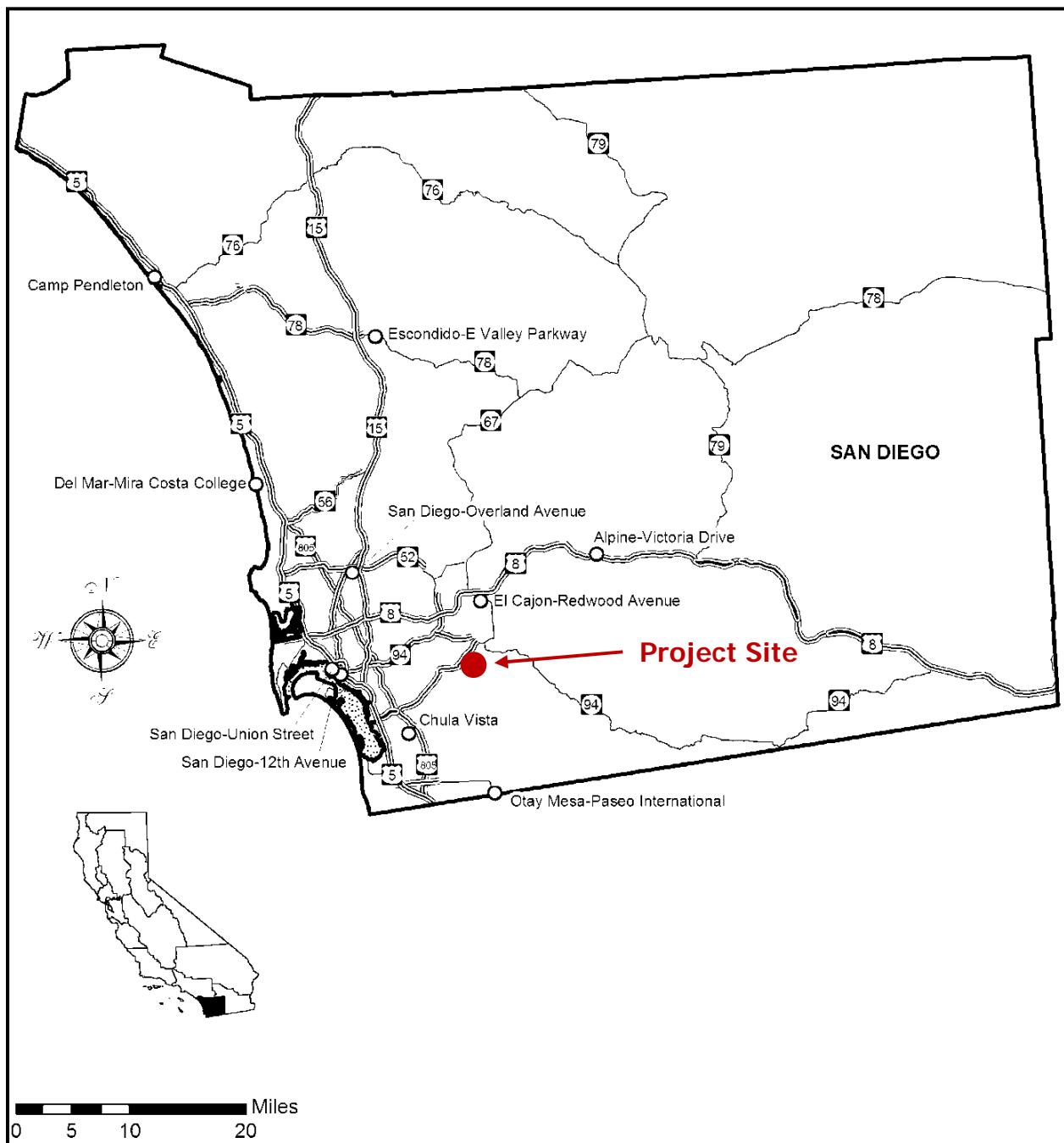


Table 2.4: Three-Year Ambient Air Quality Summary near the Project Site

Pollutant	Closest Recorded Ambient Monitoring Site	Averaging Time	CAAQS	NAAQS	2011	2012	2013
O ³ (ppm)	El Cajon-Redwood Avenue	1 Hour	0.09 ppm	-	0.11	0.09	0.09
		8 Hour	0.070 ppm	0.075 ppm	0.09	0.07	0.08
PM ₁₀ (µg/m ³)		24 Hour	50 µg/m ³	150 µg/m ³	42	48	41
		Annual Arithmetic Mean	20 µg/m ³	-	23.5	23.0	24.2
PM _{2.5} (µg/m ³)		24 Hour	-	35 µg/m ³	30	38	23.1
		Annual Arithmetic Mean	12 µg/m ³	15 µg/m ³	10.5	10.5	10.6
NO ₂ (ppm)		Annual Arithmetic Mean	0.030 ppm	0.053 ppm	0.012	0.012	0.011
		1 Hour	0.18 ppm	-	0.050	0.057	0.057
CO (ppm)		1 Hour	20 ppm	35 ppm	1.8	2.3	1.9
		8 Hour	9 ppm	9 ppm	1.3	1.9	1.2

3.0 METHODOLOGY

3.1 Construction Emissions Calculations

Air Quality impacts related to construction and daily operations were calculated using the latest CalEEMod air quality model, which was developed by ENVIRON International Corporation for South Coast Air Quality Management District (SCAQMD) in 2013. The construction module in CalEEMod is used to calculate the emissions associated with the construction of the project and uses methodologies presented in the US EPA AP-42 document with emphasis on Chapter 11.9. The CalEEMod input/output model is shown in ***Attachment A*** to this report.

Cancer Risk will be determined for Diesel Particulate Matter (DPM) at the point of maximum exposure. The SCREEN3 dispersion model can be used to determine the concentration for air pollutants at any location near the pollutant generator. Additionally, the model will predict the maximum exposure distance and concentration. The SCREEN3 input/output files are shown in ***Attachment B*** of this report. The worst case exhaust emissions generated from the Project from construction equipment was utilized and calculated within the CalEEMod model. The worst case cancer risk if exposed to a DPM dose for 70 years is defined as:

$$CR_{DPM} = C_{DPM} \times URF_{DPM}$$

Where, CR_{DPM} = Cancer risk from diesel particulate matter (probability on an individual developing Cancer)

C_{DPM} = Annual average DPM concentration in $\mu\text{g}/\text{m}^3$ (SCREEN3 predicts a 1-hr concentration and is corrected to an annual average by multiplying the 1-hr average by 0.08 (Source: U.S. EPA, 1992; ARB, 1994))

URF_{DPM} = the inhalation unit risk factor for diesel particulate was established by ARB as 300 in one million per continuous exposure of 1 $\mu\text{g}/\text{m}^3$ of DPM over a 70-year period.

(Source: Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling emissions for CEQA Air Quality Analysis (August 2003))

3.2 Construction Assumptions

The Project construction would be expected to take approximately 17 months to complete. Approximately 100 tons of existing onsite concrete footings and pads will be demolished within roughly 11 days and will be hauled offsite with an additional 11 days of site preparations. The grading operations are expected to take approximately 2 months and would include all trenching and footing work for the development. After grading is complete

paving operations would take an additional month and then the residential buildings will be built out over the following 15-months. The entire build out of the Project would be expected no sooner than July 2017 which would encompass about 399 workdays. Table 3.1 below shows the expected timeframes for the construction processes for all the project infrastructure, facilities, improvements and residential structures at the proposed project location.

Table 3.1: Expected Construction Equipment

Equipment Identification	Proposed Start	Proposed Completion	Construction Days	Quantity
Demolition	01/01/2016	01/15/2016	11	
Concrete/Industrial Saws				1
Excavators				2
Rubber Tired Dozers				2
Site Preparation	01/16/2016	01/30/2016	10	
Rubber Tired Dozers				2
Tractors/Loaders/Backhoes				4
Grading	02/02/2016	03/25/2016	39	
Excavators				2
Graders				2
Rubber Tired Dozers				1
Scrapers				2
Tractors/Loaders/Backhoes				2
Paving	03/26/2016	04/22/2016	20	
Pavers				2
Paving Equipment				2
Rollers				2
Building Construction	04/25/2016	07/13/2017	319	
Cranes				1
Forklifts				3
Generator Sets				2
Tractors/Loaders/Backhoes				3
Welders				2
Architectural Coating	03/16/2017	7/13/2017	86 (Overlapped with Building Construction)	
This equipment list is based upon equipment inventory within URBEMIS2007. The quantity and types are based upon assumptions from Projects of similar size and scope in the County of San Diego.				

3.3 Operational Emissions

Operational Emissions from daily trips and area sources will be calculated utilizing the CalEEMod 2013.2.2 model. Emissions from both daily trips and area sources will be considered additive and combined to show total Project related emission outputs. CalEEMod

predicted emission rates are taken from EMFAC 2011 and are multiplied with vehicle activity data provided by the regional transportation agencies to calculate the statewide or regional emission inventories. An emission inventory is the emission rate (e.g., grams per pollutant emitted over a mile) and vehicle activity (e.g., miles driven per day). Area sources originate from daily onsite uses, which require either burning fuel to generate energy (i.e. natural gas fireplaces, gas furnaces, gas water heaters and small engines) or the evaporation of organic gases such as paints (architectural coatings).

In the EMFAC model, the emission rates are multiplied with vehicle activity data provided by the regional transportation agencies to calculate the statewide or regional emission inventories. An emission inventory is the emission rate (e.g., grams per pollutant emitted over a mile) and vehicle activity (e.g., miles driven per day). Area sources originate from daily onsite uses, which require either burning fuel to generate energy (i.e. natural gas fireplaces, gas furnaces, gas water heaters and small engines) or the evaporation of organic gases such as paints (architectural coatings).

Electricity usage for the Park would be minimal and would only be for nighttime lighting. It is estimated that the park would need approximately 25 light fixtures for the entire park. Typically, either metal halide or high pressure sodium lights are used for low temperature lighting as required for night sky ordinances. Typically, these light bulbs are rated at 400 Watts (Source: http://www-everlastlight.com/compare_hid_lighting.html). The 25-400W street lights which will be utilized at the park are expected to be on for at least 4,380 hours per year or 12 hours per day. This would work out to an additional project usage of 43,800 kWh per year. CalEEMod was updated to reflect these consumption variables.

The Project traffic engineer estimated that there will be 1,031 daily trips which were broken down within the Project traffic study (Source: Traffic Impact Analysis Sweetwater Place, Linscott Law & Greenspan, 2014). These traffic numbers were utilized within the CalEEMod 2013 analysis. The model also estimates emission predictions for ROG, NO_x, CO, SO₂, PM₁₀ and PM_{2.5} for area source assumptions. It was assumed that the project would have access to natural gas thereby enabling the project to assume default settings within air quality modeling.

3.4 Micro Scale Operational Emissions

Air pollutant emissions related to project traffic have the potential to create new, or worsen existing localized air quality violations with respect to carbon monoxide (CO). These increased carbon monoxide "Hot Spots" are determined through the utilization of the ITS Transportation Project-Level Carbon Monoxide Protocol (University of California, Davis for California Department of Transportation, 1997).

In the event the proposed project traffic adds vehicular trips to either an intersection that operates at LOS E or F or any intersection where the project trips re-classify the intersection level of service to LOS E or F and when peak-hour trips exceed 3,000 the Project must quantify CO levels (County of San Diego, 2007)

Based on the project traffic study, the proposed project will cumulatively cause existing intersections within the project study area to operate at LOS E or F but at the two identified intersections (Jamacha/Campo and SR54/SR94), peak-hour trips would be less than 3,000 trips and would therefore not require micro-scale CO emission analysis and will not be discussed further in this report.

3.5 Odor Impacts (Onsite)

Potential onsite odor generators would include short term construction odors from activities such as paving and possibly painting as well as odors from agricultural uses. Odors created during short term construction activities would most likely be from placing asphalt which has a slight odor from the bitumen and solvents used within hot asphalt. Asphalt operations are fairly quick and are not expected to cause significant long-term odor impacts. Further discussion of onsite odor impacts is not included in this report.

4.0 FINDINGS

4.1 Construction Findings

The Project construction would be expected to take approximately 17 months to complete. Approximately 100 tons of existing onsite concrete footings and pads will be demolished within roughly 11 days and will be hauled offsite with an additional 11 days of site preparations. The grading operations are expected to take approximately 2 months and would include all trenching and footing work for the development. After grading is complete paving operations would take an additional month and then the residential buildings will be built out over the following 15-months. The entire build out of the Project would be expected no sooner than July 2016 which would encompass about 399 workdays.

A summary of the construction emissions as modeled within CalEEMod is shown in Table 4.1 below. Given these findings, air quality impacts are not expected during construction. It should be noted however, the grading contractor will be required to follow best management practices while grading and would be required to wet the soil regularly such that no visible dust plumes leave the property boundaries.

Table 4.1: Expected Construction Emissions Summary

Year	ROG	NO _x	CO	SO ₂	PM ₁₀ (Dust)	PM ₁₀ (Exhaust)	PM ₁₀ (Total)	PM _{2.5} (Dust)	PM _{2.5} (Exhaust)	PM _{2.5} (Total)
2016	7.56	85.27	54.87	0.07	14.29	4.17	16.58	6.88	3.84	8.99
2017	64.36	37.16	33.40	0.06	1.25	2.42	3.66	0.33	2.31	2.64
Significance Threshold (lb/day)	75	250	550	250	-	-	100	-	-	55
SDAPCD Impact?	No	No	No	No	-	-	No	-	-	No

4.2 Health Risk

Based upon this annual air quality modeling data from construction, we find that cumulative total PM₁₀ exhaust emissions would be as high 0.5040 tons over 399 construction days. Given this, it can be expected that exhaust emissions would average out to be 2.526 lb/day. Converting pounds (lbs) per day to grams per second is shown below:

$$\frac{2.526 \frac{\text{lb}}{\text{day}} * 453 \frac{\text{grams}}{\text{lb}}}{\frac{28,800 \text{ seconds}}{\text{Construction day}}} = 0.0397 \frac{\text{grams}}{\text{second}}$$

The average emission rate over the grading area is $4.91 \times 10^{-7} \text{ g/m}^2/\text{s}$, which was calculated as follows:

$$\frac{0.0397 \frac{\text{grams}}{\text{second}}}{20 \text{ acres} * 4,046 \frac{\text{meters}^2}{\text{acre}}} = 4.91 \times 10^{-7} \frac{\text{grams}}{\text{meters}^2 \text{ second}}$$

Utilizing the SCREEN3 dispersion model, we find that the peak maximum 1-hr concentration is $13.28 \mu\text{g/m}^3$ during grading. Converting the peak 1-hr concentration to an annual concentration reduces the concentration to $1.06 \mu\text{g/m}^3$. Therefore, utilizing the risk equation identified in Chapter 4 we calculate that the cancer dose over a 70 year continuous period would be:

$$CR_{DPM-70\text{yr dose}} = 0.0003 \times 1.06 = 0.000319$$

The proposed project is expected to generate maximum DPM during grading and construction of the project, which is expected to be approximately 2,048 workdays. This would work out to 133-24 hr days out of 70 years or 133/25,550 or 0.005205 times the CR_{DPM} . If one million people were exposed to the maximum DPM for the duration of grading, the estimated increased cancer risk could be:

$$0.005205 \times 0.000319 \times 1,000,000 = 1.659 \text{ individuals per million}$$

The maximum DPM is projected to occur approximately 200 meters from the geometric center of the Project. The numerical number of individuals exposed to DPM of this concentration from the project would be less than ten in one million. Therefore, because the project increases the risk to more than one person per million the project would be required to utilize equipment meeting requirements of T-BACT such as using diesel particulate filters or catalytic converters and utilizing Tier II certified equipment at a minimum.

The SCREEN3 dispersion model outputs are attached to this report. Also, it should be noted that every other receptor point would have a risk level lower than 1.659 individuals per 1 million exposed. It should be noted that this risk level is considered below significance by SDAPCD given the project will utilize T-BACT technology.

4.3 Operational Findings

Project Buildout is expected towards the end of 2017. Default vehicular trip generation, trip distances and mix ratios as predicted by CALEEMOD 2013.2.2 was used for this analysis. Additionally, The Model was run for the winter, summer and annual scenarios to fully determine operational impacts throughout any given year.

The expected daily pollutant generation can be calculated utilizing the product of the average daily miles traveled and the expected emissions inventory calculated by EMFAC2011; CALEEMOD 2013.2.2 performs this calculation. The daily pollutants calculated for summer and winter are shown in Tables 4.2 and 4.3 below and on the following page. Based upon these calculations, the proposed project would exceed SCAQMD significance thresholds for ROG and would be required to implement mitigation measures to comply with CEQA and SDAPCD thresholds.

It was found that impacts to the proposed project would largely be from wood burning hearths. Replacing these hearths with natural gas burning hearths would reduce these impacts to below significance.

Table 4.2: Expected Daily Pollutant Generation (Summer)

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer Scenario (Lb/Day)						
Area	198.57	2.73	247.64	0.09	33.43	33.43
Energy	0.05	0.42	0.18	0.00	0.03	0.03
Mobile	3.02	6.26	30.44	0.09	6.13	1.70
Total (Unmitigated)	201.64	9.42	278.26	0.19	39.60	35.16
SCAQMD Thresholds	75	250	550	250	100	55
Significant?	Yes	No	No	No	No	No
Area	5.96	0.12	10.11	0.00	0.21	0.21
Energy	0.04	0.34	0.15	0.00	0.03	0.03
Mobile	3.02	6.26	30.44	0.09	6.13	1.70
Total (Mitigated)	9.02	6.72	40.70	0.09	6.37	1.94
Significant?	No	No	No	No	No	No
Daily pollutant generation assumes trip distances within CalEEMod						

Table 4.3: Expected Daily Pollutant Generation (Winter)

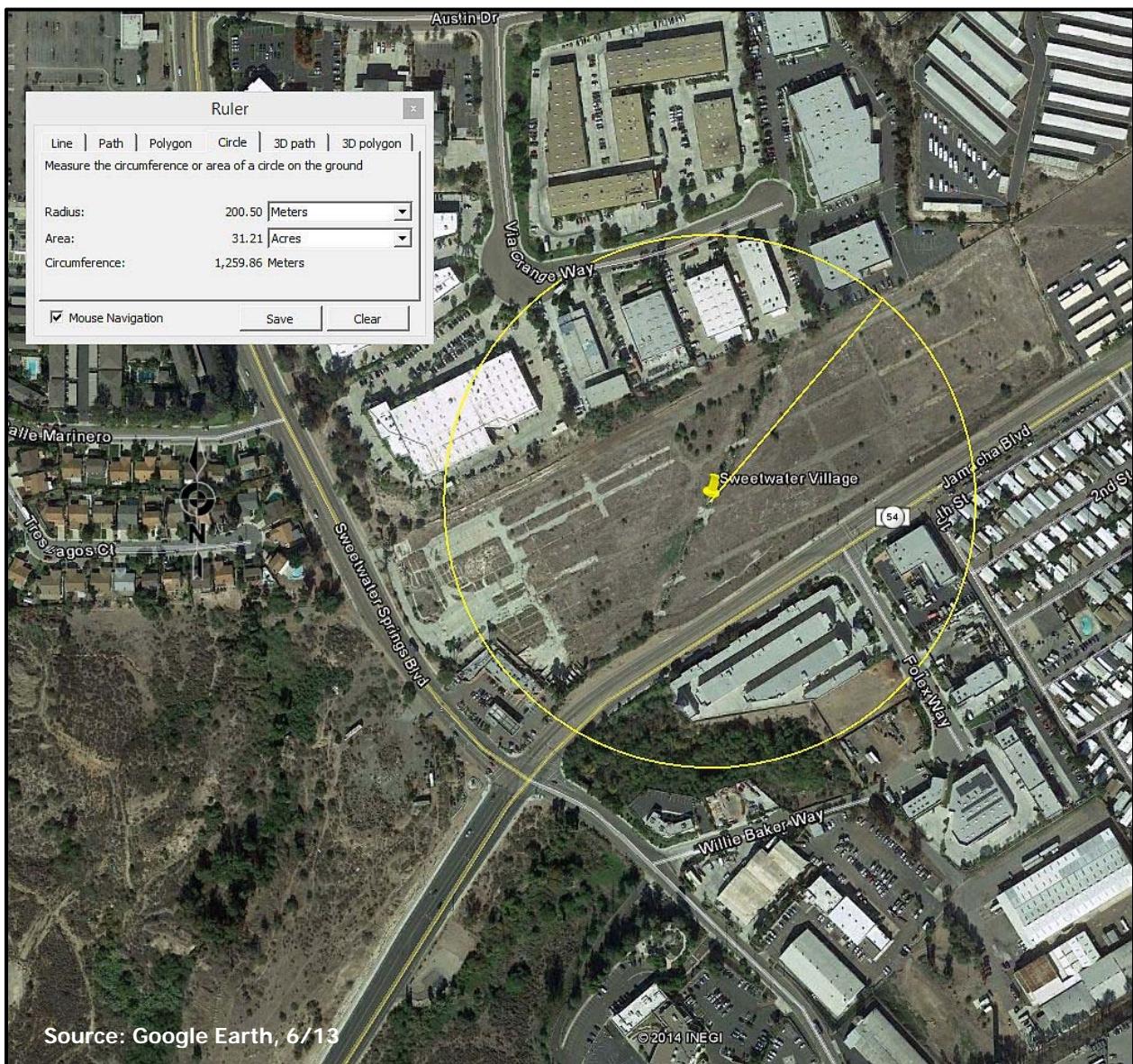
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Winter Scenario (Lb/Day)						
Area	198.57	2.73	247.64	0.09	33.43	33.43
Energy	0.05	0.42	0.18	0.00	0.03	0.03
Mobile	3.20	6.66	31.92	0.09	6.13	1.70
Total (Unmitigated)	201.82	9.82	279.75	0.18	39.60	35.16
SCAQMD Thresholds	75	250	550	250	100	55
Significant?	Yes	No	No	No	No	No
Area	5.96	0.12	10.11	0.00	0.21	0.21
Energy	0.04	0.34	0.15	0.00	0.03	0.03
Mobile	3.20	6.66	31.92	0.09	6.13	1.70
Total (Mitigated)	9.20	7.12	42.18	0.09	6.37	1.94
Significant?	No	No	No	No	No	No
Daily pollutant generation assumes trip distances within CalEEMod						

4.4 Cumulative Impact Findings

The proposed project seeks to modify the existing zoning from RL-80 to Village Residential (VR-7.3) designator. Given this, there would be an increased density within the Spring Valley area over what is identified within the General plan, however, based on SANDAG data warehouse site (SANDAG, 2015) the Spring Valley area is expected to add 1,398 housing units between 2015 and 2030 and even more through 2050. Since the project seeks to add only 122 units (only 9% of the projected future growth) it's reasonable to assume that no cumulative impacts would be expected and that the project growth would be captured within the expected growth for the area. Therefore, the project would be compatible with the RAQS and the SIP.

Furthermore, from a health risk perspective, there are no identified projects within the worst case construction emission radius as predicted by the SCREEN3 model. Figure 4-A on the following page shows the worst case 200 meters radius for a visual understanding of this concept. Since no overlapping construction emissions are expected the worst case health risk probabilities are not expected to increase above 10 in one million and would therefore not be considered an impact.

Figure 4-A: Worst Case DPM Construction Contour



4.5 Conclusion of Findings

Based upon our analysis, no fugitive dust impacts are expected during construction and mitigation is not required under CEQA.

Based upon our health risk analysis, it was found that up to 1.659 persons out of 1 million individuals could develop cancer if exposed to the peak emissions for the entire duration of

399 days. Given this, the following mitigation recommendation would bring this impact to less than significant:

- *Utilize either diesel particulate filters to retrofit existing equipment or use Tier 2 Equipment. This requirement would meet T-BACT requirements.*

Operational impacts are expected if regular wood burning hearths are installed. To reduce impacts to below significance the following mitigation measure is required.

- *Only natural gas hearths shall be installed within residential units if hearth options are offered.*

The proposed project seeks to modify the existing land use designated as RL-80 (Rural Lands) to a Village Residential (VR-7.3) designator which would increase density; However, SANDAG expects housing growth within the Spring Valley area is to add 1,398 housing units between 2015 and 2030 and even more through 2050. Since the project only seeks to add 122 units, no impacts to the RAQS or SIP are expected.

No concurrent large construction projects are expected to be under construction simultaneously to the proposed project so cumulative construction impacts are not expected.

5.0 CERTIFICATIONS

The contents of this report represent an accurate depiction of the air quality environment and impacts within and surrounding the proposed Sweetwater Place Residential development. This report was prepared utilizing the latest emission rates and reduction methodologies. This report was prepared by Jeremy Louden; a County approved CEQA Consultant for Air Quality.

Jeremy Louden, Principal
Ldn Consulting, Inc.
(760) 473-1253
jlouden@ldnconsulting.net

Date April 30, 2015

ATTACHMENT A

CalEEMod 2013 (Summer, Winter, Annual)

Sweetwater Village (mitigated)

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.53	Acre	1.53	66,646.80	0
Condo/Townhouse	122.00	Dwelling Unit	18.47	122,000.00	349

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual project area

Construction Phase - Proposed Construction Durations

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Vehicle Trips - Trip Generation per Project Traffic Study

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Energy Use - City Park Lighting intensity is .88 kWh/SF/Year

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	86.00
tblConstructionPhase	NumDays	300.00	319.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	30.00	39.00
tblConstructionPhase	PhaseEndDate	11/10/2017	7/13/2017
tblConstructionPhase	PhaseEndDate	3/24/2016	3/25/2016
tblConstructionPhase	PhaseEndDate	1/29/2016	1/30/2016
tblConstructionPhase	PhaseStartDate	7/14/2017	3/16/2017

tblConstructionPhase	PhaseStartDate	4/23/2016	4/25/2016
tblConstructionPhase	PhaseStartDate	1/31/2016	2/2/2016
tblEnergyUse	LightingElect	0.00	0.88
tblGrading	AcresOfGrading	117.00	20.00
tblGrading	AcresOfGrading	0.00	20.00
tblLandUse	LotAcreage	7.63	18.47
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblTripsAndVMT	HaulingTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	18.00
tblVehicleTrips	ST_TR	1.59	20.00
tblVehicleTrips	ST_TR	7.16	8.00
tblVehicleTrips	SU_TR	1.59	20.00
tblVehicleTrips	SU_TR	6.07	8.00
tblVehicleTrips	WD_TR	1.59	20.00
tblVehicleTrips	WD_TR	6.59	8.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Year	lb/day										lb/day						
2016	7.5611	85.2675	54.8702	0.0698	14.2884	4.1685	16.5826	6.8822	3.8350	8.9928	0.0000	7,220.723	7,220.723	2.1387	0.0000	7,265.636	
2017	64.3616	37.1597	33.4027	0.0581	1.2468	2.4181	3.6649	0.3336	2.3070	2.6407	0.0000	5,386.716	5,386.716	0.8325	0.0000	5,404.199	
Total	71.9227	122.4272	88.2729	0.1279	15.5352	6.5866	20.2475	7.2158	6.1420	11.6335	0.0000	12,607.43	12,607.43	2.9712	0.0000	12,669.83	
												98	98			58	

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Year	lb/day										lb/day						
2016	7.5611	85.2675	54.8702	0.0698	14.2884	4.1685	16.5826	6.8822	3.8350	8.9928	0.0000	7,220.723	7,220.723	2.1387	0.0000	7,265.636	
2017	64.3616	37.1597	33.4027	0.0581	1.2468	2.4181	3.6649	0.3336	2.3070	2.6407	0.0000	5,386.716	5,386.716	0.8325	0.0000	5,404.199	
Total	71.9227	122.4272	88.2729	0.1279	15.5352	6.5866	20.2475	7.2158	6.1420	11.6335	0.0000	12,607.43	12,607.43	2.9712	0.0000	12,669.83	
												98	98			58	

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Area	198.5697	2.7330	247.6443	0.0933		33.4292	33.4292		33.4283	33.4283	3,499.238 1	1,485.653 1	4,984.891 2	3.2469	0.2752	5,138.400 7	
Energy	0.0497	0.4248	0.1808	2.7100e-003		0.0344	0.0344		0.0344	0.0344		542.3072	542.3072	0.0104	9.9400e-003	545.6076	
Mobile	3.0203	6.2643	30.4389	0.0894	6.0345	0.0981	6.1326	1.6108	0.0905	1.7013		6,829.495 0	6,829.495 0	0.2531		6,834.809 8	
Total	201.6397	9.4221	278.2640	0.1855	6.0345	33.5617	39.5962	1.6108	33.5531	35.1639	3,499.238 1	8,857.455 4	12,356.69 34	3.5104	0.2852	12,518.81 81	

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Area	5.9600	0.1168	10.1108	5.3000e-004		0.2076	0.2076		0.2060	0.2060	0.0000	2,419.535 5	2,419.535 5	0.0637	0.0440	2,434.521 2	
Energy	0.0400	0.3417	0.1454	2.1800e-003		0.0276	0.0276		0.0276	0.0276		436.2382	436.2382	8.3600e-003	8.0000e-003	438.8931	
Mobile	3.0203	6.2643	30.4389	0.0894	6.0345	0.0981	6.1326	1.6108	0.0905	1.7013		6,829.495 0	6,829.495 0	0.2531		6,834.809 8	
Total	9.0203	6.7229	40.6951	0.0922	6.0345	0.3334	6.3679	1.6108	0.3242	1.9350	0.0000	9,685.268 7	9,685.268 7	0.3251	0.0520	9,708.224 1	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	95.53	28.65	85.38	50.32	0.00	99.01	83.92	0.00	99.03	94.50	100.00	-9.35	21.62	90.74	81.76	22.45

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Concrete Demolition	Demolition	1/1/2016	1/15/2016	5	11	
2	Site Preparation	Site Preparation	1/16/2016	1/30/2016	5	10	
3	Grading	Grading	2/2/2016	3/25/2016	5	39	
4	Paving	Paving	3/26/2016	4/22/2016	5	20	
5	Building Construction	Building Construction	4/25/2016	7/13/2017	5	319	
6	Architectural Coating	Architectural Coating	3/16/2017	7/13/2017	5	86	

Acres of Grading (Site Preparation Phase): 20

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 255,150; Residential Outdoor: 85,050; Non-Residential Indoor: 74,488; Non-Residential Outdoor: 24,829 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Concrete Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Concrete Demolition	Excavators	2	8.00	162	0.38
Concrete Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	2	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Concrete Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	112.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Concrete Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1970	0.0000	0.1970	0.0298	0.0000	0.0298			0.0000			0.0000
Off-Road	3.8995	41.2251	31.6019	0.0346		2.0741	2.0741		1.9360	1.9360	3,539.366 0	3,539.366 0	0.9462			3,559.235 9
Total	3.8995	41.2251	31.6019	0.0346	0.1970	2.0741	2.2711	0.0298	1.9360	1.9658	3,539.366 0	3,539.366 0	0.9462			3,559.235 9

3.2 Concrete Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0454	0.0533	0.5816	1.3500e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291	112.9092	112.9092	5.6600e-003	113.0280			
Total	0.0454	0.0533	0.5816	1.3500e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291	112.9092	112.9092	5.6600e-003	113.0280			

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Fugitive Dust					0.1970	0.0000	0.1970	0.0298	0.0000	0.0298			0.0000			0.0000	
Off-Road	3.8995	41.2251	31.6019	0.0346		2.0741	2.0741		1.9360	1.9360	0.0000	3,539.3660	3,539.3660	0.9462		3,559.2359	
Total	3.8995	41.2251	31.6019	0.0346	0.1970	2.0741	2.2711	0.0298	1.9360	1.9658	0.0000	3,539.3660	3,539.3660	0.9462		3,559.2359	

3.2 Concrete Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0454	0.0533	0.5816	1.3500e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291	112.9092	112.9092	5.6600e-003	113.0280			
Total	0.0454	0.0533	0.5816	1.3500e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291	112.9092	112.9092	5.6600e-003	113.0280			

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.1652	0.0000	14.1652	6.8495	0.0000	6.8495			0.0000			0.0000
Off-Road	3.8388	40.7616	30.6203	0.0302		2.2933	2.2933		2.1098	2.1098	3,141.5732	3,141.5732	0.9476			3,161.4730
Total	3.8388	40.7616	30.6203	0.0302	14.1652	2.2933	16.4585	6.8495	2.1098	8.9593		3,141.5732	3,141.5732	0.9476		3,161.4730

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0524	0.0615	0.6711	1.5600e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	130.2798	130.2798	6.5300e-003	130.4169			
Total	0.0524	0.0615	0.6711	1.5600e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	130.2798	130.2798	6.5300e-003			130.4169	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.1652	0.0000	14.1652	6.8495	0.0000	6.8495			0.0000			0.0000
Off-Road	3.8388	40.7616	30.6203	0.0302		2.2933	2.2933		2.1098	2.1098	0.0000	3,141.5732	3,141.5732	0.9476		3,161.4730
Total	3.8388	40.7616	30.6203	0.0302	14.1652	2.2933	16.4585	6.8495	2.1098	8.9593	0.0000	3,141.5732	3,141.5732	0.9476		3,161.4730

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0524	0.0615	0.6711	1.5600e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	130.2798	130.2798	6.5300e-003	130.4169			
Total	0.0524	0.0615	0.6711	1.5600e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	130.2798	130.2798	6.5300e-003	130.4169			

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5659	0.0000	6.5659	3.3690	0.0000	3.3690			0.0000			0.0000
Off-Road	7.4982	85.1936	54.0649	0.0680		4.1674	4.1674		3.8340	3.8340	7,064.3876	7,064.3876	2.1309			7,109.1359
Total	7.4982	85.1936	54.0649	0.0680	6.5659	4.1674	10.7333	3.3690	3.8340	7.2029		7,064.3876	7,064.3876	2.1309		7,109.1359

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0629	0.0738	0.8053	1.8700e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0200e-003	0.0402	156.3358	156.3358	7.8300e-003			156.5002	
Total	0.0629	0.0738	0.8053	1.8700e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0200e-003	0.0402	156.3358	156.3358	7.8300e-003			156.5002	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5659	0.0000	6.5659	3.3690	0.0000	3.3690			0.0000			0.0000
Off-Road	7.4982	85.1936	54.0649	0.0680		4.1674	4.1674		3.8340	3.8340	0.0000	7,064.3876	7,064.3876	2.1309		7,109.1359
Total	7.4982	85.1936	54.0649	0.0680	6.5659	4.1674	10.7333	3.3690	3.8340	7.2029	0.0000	7,064.3876	7,064.3876	2.1309		7,109.1359

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0629	0.0738	0.8053	1.8700e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0200e-003	0.0402	156.3358	156.3358	7.8300e-003	156.5002			
Total	0.0629	0.0738	0.8053	1.8700e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0200e-003	0.0402		156.3358	156.3358	7.8300e-003		156.5002	

3.5 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601	2,316.3767	2,316.3767	0.6987			2,331.0495	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000		0.0000				0.0000	
Total	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601		2,316.3767	2,316.3767	0.6987			2,331.0495

3.5 Paving - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0524	0.0615	0.6711	1.5600e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	130.2798	130.2798	6.5300e-003	130.4169			
Total	0.0524	0.0615	0.6711	1.5600e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	130.2798	130.2798	6.5300e-003			130.4169	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601	0.0000	2,316.3767	2,316.3767	0.6987		2,331.0495	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000		0.0000				0.0000	
Total	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601	0.0000	2,316.3767	2,316.3767	0.6987		2,331.0495	

3.5 Paving - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0524	0.0615	0.6711	1.5600e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	130.2798	130.2798	6.5300e-003	130.4169			
Total	0.0524	0.0615	0.6711	1.5600e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	130.2798	130.2798	6.5300e-003	130.4169			

3.6 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	4.6076	35.1432	24.2794	0.0360		2.4482	2.4482		2.3292	2.3292	3,499.798	3,499.798	0.7694		3,515.956	5	
Total	4.6076	35.1432	24.2794	0.0360		2.4482	2.4482		2.3292	2.3292	3,499.798	3,499.798	0.7694		3,515.956	5	

3.6 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.2295	2.0850	2.4473	5.2400e-003	0.1460	0.0315	0.1776	0.0417	0.0290	0.0707	524.8946	524.8946	4.0600e-003	524.9798			
Worker	0.3915	0.4594	5.0107	0.0117	0.9201	6.9000e-003	0.9270	0.2440	6.3500e-003	0.2504	972.7558	972.7558	0.0487		973.7793		
Total	0.6210	2.5444	7.4580	0.0169	1.0661	0.0384	1.1045	0.2857	0.0353	0.3210	1,497.6504	1,497.6504	0.0528		1,498.7591		

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	4.6076	35.1432	24.2794	0.0360		2.4482	2.4482		2.3292	2.3292	0.0000	3,499.7987	3,499.7987	0.7694		3,515.9565	
Total	4.6076	35.1432	24.2794	0.0360		2.4482	2.4482		2.3292	2.3292	0.0000	3,499.7987	3,499.7987	0.7694		3,515.9565	

3.6 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day												lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.2295	2.0850	2.4473	5.2400e-003	0.1460	0.0315	0.1776	0.0417	0.0290	0.0707	524.8946	524.8946	4.0600e-003	524.9798			
Worker	0.3915	0.4594	5.0107	0.0117	0.9201	6.9000e-003	0.9270	0.2440	6.3500e-003	0.2504	972.7558	972.7558	0.0487		973.7793		
Total	0.6210	2.5444	7.4580	0.0169	1.0661	0.0384	1.1045	0.2857	0.0353	0.3210	1,497.6504	1,497.6504	0.0528		1,498.7591		

3.6 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day												lb/day				
Off-Road	4.1734	32.6106	23.8153	0.0359		2.2094	2.2094		2.1011	2.1011	3,470.3176	3,470.3176	0.7450		3,485.9634		
Total	4.1734	32.6106	23.8153	0.0359		2.2094	2.2094		2.1011	2.1011	3,470.3176	3,470.3176	0.7450		3,485.9634		

3.6 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.2104	1.8645	2.2971	5.2300e-003	0.1460	0.0274	0.1734	0.0417	0.0252	0.0668	516.0274	516.0274	3.8300e-003	516.1079			
Worker	0.3558	0.4175	4.5320	0.0117	0.9201	6.6900e-003	0.9267	0.2440	6.1700e-003	0.2502	935.2195	935.2195	0.0451			936.1665	
Total	0.5662	2.2821	6.8291	0.0169	1.0661	0.0341	1.1001	0.2857	0.0313	0.3170	1,451.2469	1,451.2469	0.0489			1,452.2744	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	4.1734	32.6106	23.8153	0.0359		2.2094	2.2094		2.1011	2.1011	0.0000	3,470.3176	3,470.3176	0.7450		3,485.9634	
Total	4.1734	32.6106	23.8153	0.0359		2.2094	2.2094		2.1011	2.1011	0.0000	3,470.3176	3,470.3176	0.7450		3,485.9634	

3.6 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.2104	1.8645	2.2971	5.2300e-003	0.1460	0.0274	0.1734	0.0417	0.0252	0.0668	516.0274	516.0274	3.8300e-003	516.1079			
Worker	0.3558	0.4175	4.5320	0.0117	0.9201	6.6900e-003	0.9267	0.2440	6.1700e-003	0.2502	935.2195	935.2195	0.0451		936.1665		
Total	0.5662	2.2821	6.8291	0.0169	1.0661	0.0341	1.1001	0.2857	0.0313	0.3170	1,451.2469	1,451.2469	0.0489		1,452.2744		

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	59.2198						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	281.4481	281.4481	0.0297		282.0721	
Total	59.5521	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	281.4481	281.4481	0.0297		282.0721	

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0699	0.0820	0.8902	2.2900e-003	0.1807	1.3100e-003	0.1820	0.0479	1.2100e-003	0.0492	183.7038	183.7038	8.8600e-003	183.8899			
Total	0.0699	0.0820	0.8902	2.2900e-003	0.1807	1.3100e-003	0.1820	0.0479	1.2100e-003	0.0492	183.7038	183.7038	8.8600e-003			183.8899	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	59.2198						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721
Total	59.5521	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0699	0.0820	0.8902	2.2900e-003	0.1807	1.3100e-003	0.1820	0.0479	1.2100e-003	0.0492	183.7038	183.7038	8.8600e-003			183.8899	
Total	0.0699	0.0820	0.8902	2.2900e-003	0.1807	1.3100e-003	0.1820	0.0479	1.2100e-003	0.0492		183.7038	183.7038	8.8600e-003		183.8899	

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0203	6.2643	30.4389	0.0894	6.0345	0.0981	6.1326	1.6108	0.0905	1.7013	6,829.495 0	6,829.495 0	0.2531			6,834.809 8
Unmitigated	3.0203	6.2643	30.4389	0.0894	6.0345	0.0981	6.1326	1.6108	0.0905	1.7013	6,829.495 0	6,829.495 0	0.2531			6,834.809 8

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	30.60	30.60	30.60	65,326	65,326
Condo/Townhouse	976.00	976.00	976.00	2,786,776	2,786,776
Total	1,006.60	1,006.60	1,006.60	2,852,103	2,852,103

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

5.0 Energy Detail

5.1 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Percent of Electricity Use Generated with Renewable Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day												lb/day				
NaturalGas Mitigated	0.0400	0.3417	0.1454	2.1800e-003		0.0276	0.0276		0.0276	0.0276	436.2382	436.2382	8.3600e-003	8.0000e-003	438.8931		
NaturalGas Unmitigated	0.0497	0.4248	0.1808	2.7100e-003		0.0344	0.0344		0.0344	0.0344	542.3072	542.3072	0.0104	9.9400e-003	545.6076		

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	4609.61	0.0497	0.4248	0.1808	2.7100e-003		0.0344	0.0344		0.0344	0.0344	542.3072	542.3072	0.0104	9.9400e-003	545.6076	
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total		0.0497	0.4248	0.1808	2.7100e-003		0.0344	0.0344		0.0344	0.0344	542.3072	542.3072	0.0104	9.9400e-003	545.6076	

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	lb/day											lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	
Condo/Townhouse	3.70802	0.0400	0.3417	0.1454	2.1800e-003		0.0276	0.0276		0.0276	0.0276		436.2382	436.2382	8.3600e-003	8.0000e-003	438.8931	
Total		0.0400	0.3417	0.1454	2.1800e-003		0.0276	0.0276		0.0276	0.0276		436.2382	436.2382	8.3600e-003	8.0000e-003	438.8931	

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.9600	0.1168	10.1108	5.3000e-004		0.2076	0.2076		0.2060	0.2060	0.0000	2,419.5355	2,419.5355	0.0637	0.0440	2,434.5212
Unmitigated	198.5697	2.7330	247.6443	0.0933		33.4292	33.4292		33.4283	33.4283	3,499.2381	1,485.6531	4,984.8912	3.2469	0.2752	5,138.4007

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.3953					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0370					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	192.8298	2.6162	237.5456	0.0928		33.3737	33.3737		33.3727	33.3727	3,499.238 1	1,467.529 4	4,966.767 5	3.2292	0.2752	5,119.905 9
Landscaping	0.3075	0.1168	10.0988	5.3000e-004		0.0555	0.0555		0.0555	0.0555		18.1237	18.1237	0.0177		18.4949
Total	198.5697	2.7330	247.6443	0.0933		33.4292	33.4292		33.4283	33.4283	3,499.238 1	1,485.653 1	4,984.891 2	3.2469	0.2752	5,138.400 7

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.3953						0.0000	0.0000		0.0000	0.0000			0.0000		0.0000
Consumer Products	4.0370						0.0000	0.0000		0.0000	0.0000			0.0000		0.0000
Hearth	0.2201	1.0000e-005	0.0120	0.0000		0.1521	0.1521		0.1505	0.1505	0.0000	2,401.4118	2,401.4118	0.0460	0.0440	2,416.0264
Landscaping	0.3075	0.1168	10.0988	5.3000e-004		0.0555	0.0555		0.0555	0.0555		18.1237	18.1237	0.0177		18.4949
Total	5.9600	0.1168	10.1108	5.3000e-004		0.2076	0.2076		0.2060	0.2060	0.0000	2,419.5355	2,419.5355	0.0637	0.0440	2,434.5212

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Vegetation

Sweetwater Village (mitigated)

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.53	Acre	1.53	66,646.80	0
Condo/Townhouse	122.00	Dwelling Unit	18.47	122,000.00	349

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual project area

Construction Phase - Proposed Construction Durations

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Vehicle Trips - Trip Generation per Project Traffic Study

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Energy Use - City Park Lighting intensity is .88 kWh/SF/Year

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	86.00
tblConstructionPhase	NumDays	300.00	319.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	30.00	39.00
tblConstructionPhase	PhaseEndDate	11/10/2017	7/13/2017
tblConstructionPhase	PhaseEndDate	3/24/2016	3/25/2016
tblConstructionPhase	PhaseEndDate	1/29/2016	1/30/2016
tblConstructionPhase	PhaseStartDate	7/14/2017	3/16/2017

tblConstructionPhase	PhaseStartDate	4/23/2016	4/25/2016
tblConstructionPhase	PhaseStartDate	1/31/2016	2/2/2016
tblEnergyUse	LightingElect	0.00	0.88
tblGrading	AcresOfGrading	117.00	20.00
tblGrading	AcresOfGrading	0.00	20.00
tblLandUse	LotAcreage	7.63	18.47
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblTripsAndVMT	HaulingTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	18.00
tblVehicleTrips	ST_TR	1.59	20.00
tblVehicleTrips	ST_TR	7.16	8.00
tblVehicleTrips	SU_TR	1.59	20.00
tblVehicleTrips	SU_TR	6.07	8.00
tblVehicleTrips	WD_TR	1.59	20.00
tblVehicleTrips	WD_TR	6.59	8.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Year	lb/day										lb/day						
2016	7.5649	85.2765	54.8472	0.0697	14.2884	4.1685	16.5826	6.8822	3.8350	8.9928	0.0000	7,211.2085	7,211.2085	2.1387	0.0000	7,256.1213	
2017	64.4179	37.2648	34.0447	0.0572	1.2468	2.4184	3.6652	0.3336	2.3073	2.6409	0.0000	5,314.5827	5,314.5827	0.8326	0.0000	5,332.0681	
Total	71.9828	122.5413	88.8919	0.1269	15.5352	6.5869	20.2478	7.2158	6.1423	11.6338	0.0000	12,525.7912	12,525.7912	2.9713	0.0000	12,588.1894	

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Year	lb/day										lb/day						
2016	7.5649	85.2765	54.8472	0.0697	14.2884	4.1685	16.5826	6.8822	3.8350	8.9928	0.0000	7,211.2085	7,211.2085	2.1387	0.0000	7,256.1213	
2017	64.4179	37.2648	34.0447	0.0572	1.2468	2.4184	3.6652	0.3336	2.3073	2.6409	0.0000	5,314.5827	5,314.5827	0.8326	0.0000	5,332.0681	
Total	71.9828	122.5413	88.8919	0.1269	15.5352	6.5869	20.2478	7.2158	6.1423	11.6338	0.0000	12,525.7912	12,525.7912	2.9713	0.0000	12,588.1894	

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Area	198.5697	2.7330	247.6443	0.0933		33.4292	33.4292		33.4283	33.4283	3,499.238 1	1,485.653 1	4,984.891 2	3.2469	0.2752	5,138.400 7	
Energy	0.0497	0.4248	0.1808	2.7100e-003		0.0344	0.0344		0.0344	0.0344		542.3072	542.3072	0.0104	9.9400e-003	545.6076	
Mobile	3.1984	6.6597	31.9212	0.0850	6.0345	0.0984	6.1330	1.6108	0.0908	1.7016		6,503.519 0	6,503.519 0	0.2533		6,508.838 5	
Total	201.8178	9.8175	279.7463	0.1810	6.0345	33.5620	39.5965	1.6108	33.5534	35.1643	3,499.238 1	8,531.479 3	12,030.71 74	3.5106	0.2852	12,192.84 68	

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Area	5.9600	0.1168	10.1108	5.3000e-004		0.2076	0.2076		0.2060	0.2060	0.0000	2,419.535 5	2,419.535 5	0.0637	0.0440	2,434.521 2	
Energy	0.0400	0.3417	0.1454	2.1800e-003		0.0276	0.0276		0.0276	0.0276		436.2382	436.2382	8.3600e-003	8.0000e-003	438.8931	
Mobile	3.1984	6.6597	31.9212	0.0850	6.0345	0.0984	6.1330	1.6108	0.0908	1.7016		6,503.519 0	6,503.519 0	0.2533		6,508.838 5	
Total	9.1984	7.1182	42.1774	0.0877	6.0345	0.3337	6.3682	1.6108	0.3245	1.9353	0.0000	9,359.292 7	9,359.292 7	0.3254	0.0520	9,382.252 8	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	95.44	27.49	84.92	51.56	0.00	99.01	83.92	0.00	99.03	94.50	100.00	-9.70	22.21	90.73	81.76	23.05

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Concrete Demolition	Demolition	1/1/2016	1/15/2016	5	11	
2	Site Preparation	Site Preparation	1/16/2016	1/30/2016	5	10	
3	Grading	Grading	2/2/2016	3/25/2016	5	39	
4	Paving	Paving	3/26/2016	4/22/2016	5	20	
5	Building Construction	Building Construction	4/25/2016	7/13/2017	5	319	
6	Architectural Coating	Architectural Coating	3/16/2017	7/13/2017	5	86	

Acres of Grading (Site Preparation Phase): 20

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 255,150; Residential Outdoor: 85,050; Non-Residential Indoor: 74,488; Non-Residential Outdoor: 24,829 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Concrete Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Concrete Demolition	Excavators	2	8.00	162	0.38
Concrete Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	2	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Concrete Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	112.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Concrete Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1970	0.0000	0.1970	0.0298	0.0000	0.0298			0.0000			0.0000
Off-Road	3.8995	41.2251	31.6019	0.0346		2.0741	2.0741		1.9360	1.9360	3,539.366 0	3,539.366 0	0.9462			3,559.235 9
Total	3.8995	41.2251	31.6019	0.0346	0.1970	2.0741	2.2711	0.0298	1.9360	1.9658	3,539.366 0	3,539.366 0	0.9462			3,559.235 9

3.2 Concrete Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0482	0.0598	0.5650	1.2700e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291	106.0373	106.0373	5.6600e-003	106.1561			
Total	0.0482	0.0598	0.5650	1.2700e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291	106.0373	106.0373	5.6600e-003	106.1561			

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Fugitive Dust					0.1970	0.0000	0.1970	0.0298	0.0000	0.0298			0.0000			0.0000	
Off-Road	3.8995	41.2251	31.6019	0.0346		2.0741	2.0741		1.9360	1.9360	0.0000	3,539.3660	3,539.3660	0.9462		3,559.2359	
Total	3.8995	41.2251	31.6019	0.0346	0.1970	2.0741	2.2711	0.0298	1.9360	1.9658	0.0000	3,539.3660	3,539.3660	0.9462		3,559.2359	

3.2 Concrete Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0482	0.0598	0.5650	1.2700e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291	106.0373	106.0373	5.6600e-003	106.1561			
Total	0.0482	0.0598	0.5650	1.2700e-003	0.1068	8.0000e-004	0.1076	0.0283	7.4000e-004	0.0291		106.0373	106.0373	5.6600e-003		106.1561	

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.1652	0.0000	14.1652	6.8495	0.0000	6.8495			0.0000			0.0000
Off-Road	3.8388	40.7616	30.6203	0.0302		2.2933	2.2933		2.1098	2.1098	3,141.573 2	3,141.573 2	0.9476			3,161.473 0
Total	3.8388	40.7616	30.6203	0.0302	14.1652	2.2933	16.4585	6.8495	2.1098	8.9593		3,141.573 2	3,141.573 2	0.9476		3,161.473 0

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0556	0.0690	0.6519	1.4700e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	122.3507	122.3507	6.5300e-003	122.4878			
Total	0.0556	0.0690	0.6519	1.4700e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	122.3507	122.3507	6.5300e-003	122.4878			

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Fugitive Dust					14.1652	0.0000	14.1652	6.8495	0.0000	6.8495			0.0000			0.0000	
Off-Road	3.8388	40.7616	30.6203	0.0302		2.2933	2.2933		2.1098	2.1098	0.0000	3,141.5732	3,141.5732	0.9476		3,161.4730	
Total	3.8388	40.7616	30.6203	0.0302	14.1652	2.2933	16.4585	6.8495	2.1098	8.9593	0.0000	3,141.5732	3,141.5732	0.9476		3,161.4730	

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0556	0.0690	0.6519	1.4700e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	122.3507	122.3507	6.5300e-003	122.4878			
Total	0.0556	0.0690	0.6519	1.4700e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335		122.3507	122.3507	6.5300e-003		122.4878	

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5659	0.0000	6.5659	3.3690	0.0000	3.3690			0.0000			0.0000
Off-Road	7.4982	85.1936	54.0649	0.0680		4.1674	4.1674		3.8340	3.8340	7,064.3876	7,064.3876	2.1309			7,109.1359
Total	7.4982	85.1936	54.0649	0.0680	6.5659	4.1674	10.7333	3.3690	3.8340	7.2029		7,064.3876	7,064.3876	2.1309		7,109.1359

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0667	0.0829	0.7823	1.7600e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0200e-003	0.0402	146.8209	146.8209	7.8300e-003			146.9854	
Total	0.0667	0.0829	0.7823	1.7600e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0200e-003	0.0402		146.8209	146.8209	7.8300e-003		146.9854	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Fugitive Dust					6.5659	0.0000	6.5659	3.3690	0.0000	3.3690			0.0000			0.0000	
Off-Road	7.4982	85.1936	54.0649	0.0680		4.1674	4.1674		3.8340	3.8340	0.0000	7,064.3876	7,064.3876	2.1309		7,109.1359	
Total	7.4982	85.1936	54.0649	0.0680	6.5659	4.1674	10.7333	3.3690	3.8340	7.2029	0.0000	7,064.3876	7,064.3876	2.1309		7,109.1359	

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0667	0.0829	0.7823	1.7600e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0200e-003	0.0402	146.8209	146.8209	7.8300e-003			146.9854	
Total	0.0667	0.0829	0.7823	1.7600e-003	0.1479	1.1100e-003	0.1490	0.0392	1.0200e-003	0.0402		146.8209	146.8209	7.8300e-003		146.9854	

3.5 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601	2,316.3767	2,316.3767	0.6987			2,331.0495	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000		0.0000				0.0000	
Total	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601		2,316.3767	2,316.3767	0.6987			2,331.0495

3.5 Paving - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0556	0.0690	0.6519	1.4700e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	122.3507	122.3507	6.5300e-003	122.4878			
Total	0.0556	0.0690	0.6519	1.4700e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335		122.3507	122.3507	6.5300e-003		122.4878	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601	0.0000	2,316.3767	2,316.3767	0.6987		2,331.0495	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000		0.0000				0.0000	
Total	2.0898	22.3859	14.8176	0.0223		1.2610	1.2610		1.1601	1.1601	0.0000	2,316.3767	2,316.3767	0.6987		2,331.0495	

3.5 Paving - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day												lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0556	0.0690	0.6519	1.4700e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335	122.3507	122.3507	6.5300e-003	122.4878			
Total	0.0556	0.0690	0.6519	1.4700e-003	0.1232	9.2000e-004	0.1242	0.0327	8.5000e-004	0.0335		122.3507	122.3507	6.5300e-003		122.4878	

3.6 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day												lb/day				
Off-Road	4.6076	35.1432	24.2794	0.0360		2.4482	2.4482		2.3292	2.3292	3,499.798	3,499.798	0.7694		3,515.956		
Total	4.6076	35.1432	24.2794	0.0360		2.4482	2.4482		2.3292	2.3292	3,499.798	3,499.798	0.7694		3,515.956		

3.6 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.2655	2.1355	3.2937	5.2100e-003	0.1460	0.0319	0.1779	0.0417	0.0293	0.0710	520.8703	520.8703	4.1600e-003	520.9576			
Worker	0.4150	0.5155	4.8678	0.0110	0.9201	6.9000e-003	0.9270	0.2440	6.3500e-003	0.2504	913.5520	913.5520	0.0487	914.5755			
Total	0.6805	2.6510	8.1614	0.0162	1.0661	0.0388	1.1048	0.2857	0.0357	0.3214	1,434.4223	1,434.4223	0.0529		1,435.5331		

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	4.6076	35.1432	24.2794	0.0360		2.4482	2.4482		2.3292	2.3292	0.0000	3,499.7987	3,499.7987	0.7694		3,515.9565	
Total	4.6076	35.1432	24.2794	0.0360		2.4482	2.4482		2.3292	2.3292	0.0000	3,499.7987	3,499.7987	0.7694		3,515.9565	

3.6 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day												lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.2655	2.1355	3.2937	5.2100e-003	0.1460	0.0319	0.1779	0.0417	0.0293	0.0710	520.8703	520.8703	4.1600e-003	520.9576			
Worker	0.4150	0.5155	4.8678	0.0110	0.9201	6.9000e-003	0.9270	0.2440	6.3500e-003	0.2504	913.5520	913.5520	0.0487		914.5755		
Total	0.6805	2.6510	8.1614	0.0162	1.0661	0.0388	1.1048	0.2857	0.0357	0.3214	1,434.4223	1,434.4223	0.0529		1,435.5331		

3.6 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day												lb/day				
Off-Road	4.1734	32.6106	23.8153	0.0359		2.2094	2.2094		2.1011	2.1011	3,470.3176	3,470.3176	0.7450		3,485.9634		
Total	4.1734	32.6106	23.8153	0.0359		2.2094	2.2094		2.1011	2.1011	3,470.3176	3,470.3176	0.7450		3,485.9634		

3.6 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day												lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.2426	1.9087	3.1196	5.2000e-003	0.1460	0.0277	0.1737	0.0417	0.0254	0.0671	512.0585	512.0585	3.9400e-003	512.1412			
Worker	0.3760	0.4685	4.3811	0.0109	0.9201	6.6900e-003	0.9267	0.2440	6.1700e-003	0.2502	878.2459	878.2459	0.0451			879.1929	
Total	0.6186	2.3772	7.5007	0.0161	1.0661	0.0343	1.1004	0.2857	0.0316	0.3173	1,390.3044	1,390.3044	0.0490			1,391.3341	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day												lb/day				
Off-Road	4.1734	32.6106	23.8153	0.0359		2.2094	2.2094		2.1011	2.1011	0.0000	3,470.3176	3,470.3176	0.7450		3,485.9634	
Total	4.1734	32.6106	23.8153	0.0359		2.2094	2.2094		2.1011	2.1011	0.0000	3,470.3176	3,470.3176	0.7450		3,485.9634	

3.6 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.2426	1.9087	3.1196	5.2000e-003	0.1460	0.0277	0.1737	0.0417	0.0254	0.0671	512.0585	512.0585	3.9400e-003	512.1412			
Worker	0.3760	0.4685	4.3811	0.0109	0.9201	6.6900e-003	0.9267	0.2440	6.1700e-003	0.2502	878.2459	878.2459	0.0451		879.1929		
Total	0.6186	2.3772	7.5007	0.0161	1.0661	0.0343	1.1004	0.2857	0.0316	0.3173	1,390.3044	1,390.3044	0.0490		1,391.3341		

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Archit. Coating	59.2198						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000	
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	281.4481	281.4481	0.0297		282.0721		
Total	59.5521	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	281.4481	281.4481	0.0297		282.0721		

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0739	0.0920	0.8606	2.1500e-003	0.1807	1.3100e-003	0.1820	0.0479	1.2100e-003	0.0492	172.5126	172.5126	8.8600e-003			172.6986	
Total	0.0739	0.0920	0.8606	2.1500e-003	0.1807	1.3100e-003	0.1820	0.0479	1.2100e-003	0.0492		172.5126	172.5126	8.8600e-003		172.6986	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Archit. Coating	59.2198						0.0000	0.0000		0.0000	0.0000		0.0000			0.0000	
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721	
Total	59.5521	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721	

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0739	0.0920	0.8606	2.1500e-003	0.1807	1.3100e-003	0.1820	0.0479	1.2100e-003	0.0492	172.5126	172.5126	8.8600e-003			172.6986	
Total	0.0739	0.0920	0.8606	2.1500e-003	0.1807	1.3100e-003	0.1820	0.0479	1.2100e-003	0.0492		172.5126	172.5126	8.8600e-003		172.6986	

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.1984	6.6597	31.9212	0.0850	6.0345	0.0984	6.1330	1.6108	0.0908	1.7016	6,503.5190	6,503.5190	0.2533			6,508.8385
Unmitigated	3.1984	6.6597	31.9212	0.0850	6.0345	0.0984	6.1330	1.6108	0.0908	1.7016	6,503.5190	6,503.5190	0.2533			6,508.8385

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	30.60	30.60	30.60	65,326	65,326
Condo/Townhouse	976.00	976.00	976.00	2,786,776	2,786,776
Total	1,006.60	1,006.60	1,006.60	2,852,103	2,852,103

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

5.0 Energy Detail

5.1 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Percent of Electricity Use Generated with Renewable Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day												lb/day				
NaturalGas Mitigated	0.0400	0.3417	0.1454	2.1800e-003		0.0276	0.0276		0.0276	0.0276	436.2382	436.2382	8.3600e-003	8.0000e-003	438.8931		
NaturalGas Unmitigated	0.0497	0.4248	0.1808	2.7100e-003		0.0344	0.0344		0.0344	0.0344	542.3072	542.3072	0.0104	9.9400e-003	545.6076		

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Condo/Townhouse	4609.61	0.0497	0.4248	0.1808	2.7100e-003		0.0344	0.0344		0.0344	0.0344	542.3072	542.3072	0.0104	9.9400e-003	545.6076	
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total		0.0497	0.4248	0.1808	2.7100e-003		0.0344	0.0344		0.0344	0.0344	542.3072	542.3072	0.0104	9.9400e-003	545.6076	

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	lb/day											lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	
Condo/Townhouse	3.70802	0.0400	0.3417	0.1454	2.1800e-003		0.0276	0.0276		0.0276	0.0276		436.2382	436.2382	8.3600e-003	8.0000e-003	438.8931	
Total		0.0400	0.3417	0.1454	2.1800e-003		0.0276	0.0276		0.0276	0.0276		436.2382	436.2382	8.3600e-003	8.0000e-003	438.8931	

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.9600	0.1168	10.1108	5.3000e-004		0.2076	0.2076		0.2060	0.2060	0.0000	2,419.5355	2,419.5355	0.0637	0.0440	2,434.5212
Unmitigated	198.5697	2.7330	247.6443	0.0933		33.4292	33.4292		33.4283	33.4283	3,499.2381	1,485.6531	4,984.8912	3.2469	0.2752	5,138.4007

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.3953					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0370					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	192.8298	2.6162	237.5456	0.0928		33.3737	33.3737		33.3727	33.3727	3,499.238 1	1,467.529 4	4,966.767 5	3.2292	0.2752	5,119.9059
Landscaping	0.3075	0.1168	10.0988	5.3000e-004		0.0555	0.0555		0.0555	0.0555		18.1237	18.1237	0.0177		18.4949
Total	198.5697	2.7330	247.6443	0.0933		33.4292	33.4292		33.4283	33.4283	3,499.238 1	1,485.653 1	4,984.891 2	3.2469	0.2752	5,138.400 7

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.3953						0.0000	0.0000		0.0000	0.0000			0.0000		0.0000
Consumer Products	4.0370						0.0000	0.0000		0.0000	0.0000			0.0000		0.0000
Hearth	0.2201	1.0000e-005	0.0120	0.0000		0.1521	0.1521		0.1505	0.1505	0.0000	2,401.4118	2,401.4118	0.0460	0.0440	2,416.0264
Landscaping	0.3075	0.1168	10.0988	5.3000e-004		0.0555	0.0555		0.0555	0.0555		18.1237	18.1237	0.0177		18.4949
Total	5.9600	0.1168	10.1108	5.3000e-004		0.2076	0.2076		0.2060	0.2060	0.0000	2,419.5355	2,419.5355	0.0637	0.0440	2,434.5212

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Vegetation

Sweetwater Village (mitigated)

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.53	Acre	1.53	66,646.80	0
Condo/Townhouse	122.00	Dwelling Unit	18.47	122,000.00	349

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual project area

Construction Phase - Proposed Construction Durations

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment - Proposed Construction Equipment

Off-road Equipment -

Off-road Equipment - Proposed Construction Equipment

Vehicle Trips - Trip Generation per Project Traffic Study

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Energy Use - City Park Lighting intensity is .88 kWh/SF/Year

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	86.00
tblConstructionPhase	NumDays	300.00	319.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	30.00	39.00
tblConstructionPhase	PhaseEndDate	11/10/2017	7/13/2017
tblConstructionPhase	PhaseEndDate	3/24/2016	3/25/2016
tblConstructionPhase	PhaseEndDate	1/29/2016	1/30/2016
tblConstructionPhase	PhaseStartDate	7/14/2017	3/16/2017

tblConstructionPhase	PhaseStartDate	4/23/2016	4/25/2016
tblConstructionPhase	PhaseStartDate	1/31/2016	2/2/2016
tblEnergyUse	LightingElect	0.00	0.88
tblGrading	AcresOfGrading	117.00	20.00
tblGrading	AcresOfGrading	0.00	20.00
tblLandUse	LotAcreage	7.63	18.47
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblTripsAndVMT	HaulingTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	18.00
tblVehicleTrips	ST_TR	1.59	20.00
tblVehicleTrips	ST_TR	7.16	8.00
tblVehicleTrips	SU_TR	1.59	20.00
tblVehicleTrips	SU_TR	6.07	8.00
tblVehicleTrips	WD_TR	1.59	20.00
tblVehicleTrips	WD_TR	6.59	8.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Year	tons/yr										MT/yr						
2016	0.6818	5.7206	4.4488	6.6500e-003	0.2989	0.3406	0.6394	0.1267	0.3204	0.4471	0.0000	586.5256	586.5256	0.1204	0.0000	589.0549	
2017	2.8938	2.5299	2.2731	3.8500e-003	0.0800	0.1634	0.2434	0.0215	0.1557	0.1772	0.0000	324.9298	324.9298	0.0516	0.0000	326.0127	
Total	3.5756	8.2505	6.7219	0.0105	0.3788	0.5040	0.8828	0.1481	0.4761	0.6242	0.0000	911.4554	911.4554	0.1720	0.0000	915.0676	

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Year	tons/yr										MT/yr						
2016	0.6818	5.7206	4.4488	6.6500e-003	0.2989	0.3406	0.6394	0.1267	0.3204	0.4471	0.0000	586.5250	586.5250	0.1204	0.0000	589.0543	
2017	2.8938	2.5299	2.2731	3.8500e-003	0.0800	0.1634	0.2434	0.0215	0.1557	0.1772	0.0000	324.9295	324.9295	0.0516	0.0000	326.0124	
Total	3.5756	8.2505	6.7219	0.0105	0.3788	0.5040	0.8828	0.1481	0.4761	0.6242	0.0000	911.4545	911.4545	0.1720	0.0000	915.0667	

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Area	8.9251	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428	
Energy	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	281.7596	281.7596	9.4500e-003	3.2400e-003	282.9638	
Mobile	0.5473	1.2067	5.6529	0.0156	1.0725	0.0179	1.0903	0.2868	0.0165	0.3033	0.0000	1,081.1932	1,081.1932	0.0418	0.0000	1,082.0700	
Waste						0.0000	0.0000		0.0000	0.0000	11.7857	0.0000	11.7857	0.6965	0.0000	26.4124	
Water						0.0000	0.0000		0.0000	0.0000	2.6045	58.6573	61.2618	0.2699	6.8000e-003	69.0384	
Total	9.4815	1.4020	16.3341	0.0199	1.0725	1.3975	2.4699	0.2868	1.3960	1.6829	144.5428	1,477.6739	1,622.2167	1.1391	0.0203	1,652.4274	

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Area	1.0281	0.0105	0.9094	5.0000e-005		0.0112	0.0112		0.0112	0.0112	0.0000	90.7992	90.7992	3.1500e-003	1.6400e-003	91.3731	
Energy	7.3000e-003	0.0624	0.0265	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	232.3997	232.3997	7.8300e-003	2.6600e-003	233.3882	
Mobile	0.5473	1.2067	5.6529	0.0156	1.0725	0.0179	1.0903	0.2868	0.0165	0.3033	0.0000	1,081.1932	1,081.1932	0.0418	0.0000	1,082.0700	
Waste						0.0000	0.0000		0.0000	0.0000	8.8392	0.0000	8.8392	0.5224	0.0000	19.8093	
Water						0.0000	0.0000		0.0000	0.0000	2.0836	50.2234	52.3069	0.2160	5.4600e-003	58.5362	
Total	1.5827	1.2796	6.5888	0.0160	1.0725	0.0341	1.1066	0.2868	0.0327	0.3195	10.9228	1,454.6155	1,465.5383	0.7911	9.7600e-003	1,485.1768	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	83.31	8.73	59.66	19.53	0.00	97.56	55.20	0.00	97.66	81.01	92.44	1.56	9.66	30.55	51.87	10.12

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Concrete Demolition	Demolition	1/1/2016	1/15/2016	5	11	
2	Site Preparation	Site Preparation	1/16/2016	1/30/2016	5	10	
3	Grading	Grading	2/2/2016	3/25/2016	5	39	
4	Paving	Paving	3/26/2016	4/22/2016	5	20	
5	Building Construction	Building Construction	4/25/2016	7/13/2017	5	319	
6	Architectural Coating	Architectural Coating	3/16/2017	7/13/2017	5	86	

Acres of Grading (Site Preparation Phase): 20

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 255,150; Residential Outdoor: 85,050; Non-Residential Indoor: 74,488; Non-Residential Outdoor: 24,829 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Concrete Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Concrete Demolition	Excavators	2	8.00	162	0.38
Concrete Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	2	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Concrete Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	112.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Concrete Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr											MT/yr				
Fugitive Dust					1.0800e-003	0.0000	1.0800e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0215	0.2267	0.1738	1.9000e-004		0.0114	0.0114		0.0107	0.0107	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7589
Total	0.0215	0.2267	0.1738	1.9000e-004	1.0800e-003	0.0114	0.0125	1.6000e-004	0.0107	0.0108	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7589

3.2 Concrete Demolition - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349	
Total	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Fugitive Dust					1.0800e-003	0.0000	1.0800e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.0215	0.2267	0.1738	1.9000e-004		0.0114	0.0114		0.0107	0.0107	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7588	
Total	0.0215	0.2267	0.1738	1.9000e-004	1.0800e-003	0.0114	0.0125	1.6000e-004	0.0107	0.0108	0.0000	17.6597	17.6597	4.7200e-003	0.0000	17.7588	

3.2 Concrete Demolition - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349	
Total	2.5000e-004	3.2000e-004	3.0900e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5343	0.5343	3.0000e-005	0.0000	0.5349	

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2038	0.1531	1.5000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402
Total	0.0192	0.2038	0.1531	1.5000e-004	0.0708	0.0115	0.0823	0.0343	0.0106	0.0448	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402

3.3 Site Preparation - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611	
Total	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2038	0.1531	1.5000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402
Total	0.0192	0.2038	0.1531	1.5000e-004	0.0708	0.0115	0.0823	0.0343	0.0106	0.0448	0.0000	14.2499	14.2499	4.3000e-003	0.0000	14.3402

3.3 Site Preparation - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611	
Total	2.6000e-004	3.4000e-004	3.2400e-003	1.0000e-005	6.0000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5605	0.5605	3.0000e-005	0.0000	0.5611	

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1280	0.0000	0.1280	0.0657	0.0000	0.0657	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1462	1.6613	1.0543	1.3300e-003	0.0813	0.0813		0.0748	0.0748	0.0000	124.9697	124.9697	0.0377	0.0000	125.7613	
Total	0.1462	1.6613	1.0543	1.3300e-003	0.1280	0.0813	0.2093	0.0657	0.0748	0.1405	0.0000	124.9697	124.9697	0.0377	0.0000	125.7613

3.4 Grading - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-005	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260	
Total	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Fugitive Dust					0.1280	0.0000	0.1280	0.0657	0.0000	0.0657	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.1462	1.6613	1.0543	1.3300e-003	0.0813	0.0813		0.0748	0.0748	0.0000	124.9696	124.9696	0.0377	0.0000	125.7612		
Total	0.1462	1.6613	1.0543	1.3300e-003	0.1280	0.0813	0.2093	0.0657	0.0748	0.1405	0.0000	124.9696	124.9696	0.0377	0.0000	125.7612	

3.4 Grading - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260	
Total	1.2000e-003	1.5900e-003	0.0152	3.0000e-005	2.8100e-003	2.0000e-005	2.8400e-003	7.5000e-004	2.0000e-005	7.7000e-004	0.0000	2.6231	2.6231	1.4000e-004	0.0000	2.6260	

3.5 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469	

3.5 Paving - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-005	1.0000e-003	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222	
Total	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-005	1.0000e-003	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469	
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total	0.0209	0.2239	0.1482	2.2000e-004		0.0126	0.0126		0.0116	0.0116	0.0000	21.0138	21.0138	6.3400e-003	0.0000	21.1469	

3.5 Paving - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-005	1.0000e-003	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222	
Total	5.1000e-004	6.8000e-004	6.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.1210	1.1210	6.0000e-005	0.0000	1.1222	

3.6 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7468	285.7468	0.0628	0.0000	287.0660
Total	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7468	285.7468	0.0628	0.0000	287.0660

3.6 Building Construction - 2016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0225	0.1935	0.2710	4.7000e-004	0.0129	2.8500e-003	0.0157	3.6900e-003	2.6200e-003	6.3100e-003	0.0000	42.7179	42.7179	3.3000e-004	0.0000	42.7249	
Worker	0.0346	0.0457	0.4354	9.9000e-004	0.0808	6.2000e-004	0.0815	0.0215	5.7000e-004	0.0221	0.0000	75.3289	75.3289	3.9800e-003	0.0000	75.4125	
Total	0.0571	0.2391	0.7064	1.4600e-003	0.0937	3.4700e-003	0.0972	0.0252	3.1900e-003	0.0284	0.0000	118.0468	118.0468	4.3100e-003	0.0000	118.1374	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7464	285.7464	0.0628	0.0000	287.0657	
Total	0.4147	3.1629	2.1851	3.2400e-003		0.2203	0.2203		0.2096	0.2096	0.0000	285.7464	285.7464	0.0628	0.0000	287.0657	

3.6 Building Construction - 2016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0225	0.1935	0.2710	4.7000e-004	0.0129	2.8500e-003	0.0157	3.6900e-003	2.6200e-003	6.3100e-003	0.0000	42.7179	42.7179	3.3000e-004	0.0000	42.7249	
Worker	0.0346	0.0457	0.4354	9.9000e-004	0.0808	6.2000e-004	0.0815	0.0215	5.7000e-004	0.0221	0.0000	75.3289	75.3289	3.9800e-003	0.0000	75.4125	
Total	0.0571	0.2391	0.7064	1.4600e-003	0.0937	3.4700e-003	0.0972	0.0252	3.1900e-003	0.0284	0.0000	118.0468	118.0468	4.3100e-003	0.0000	118.1374	

3.6 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8012	218.8012	0.0470	0.0000	219.7877	
Total	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8012	218.8012	0.0470	0.0000	219.7877	

3.6 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0159	0.1335	0.1977	3.6000e-004	9.9500e-003	1.9100e-003	0.0119	2.8500e-003	1.7600e-003	4.6000e-003	0.0000	32.4301	32.4301	2.4000e-004	0.0000	32.4352	
Worker	0.0242	0.0321	0.3030	7.7000e-004	0.0624	4.6000e-004	0.0629	0.0166	4.3000e-004	0.0170	0.0000	55.9231	55.9231	2.8400e-003	0.0000	55.9828	
Total	0.0401	0.1656	0.5008	1.1300e-003	0.0724	2.3700e-003	0.0748	0.0194	2.1900e-003	0.0216	0.0000	88.3532	88.3532	3.0800e-003	0.0000	88.4180	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8010	218.8010	0.0470	0.0000	219.7874	
Total	0.2901	2.2664	1.6552	2.5000e-003		0.1536	0.1536		0.1460	0.1460	0.0000	218.8010	218.8010	0.0470	0.0000	219.7874	

3.6 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0159	0.1335	0.1977	3.6000e-004	9.9500e-003	1.9100e-003	0.0119	2.8500e-003	1.7600e-003	4.6000e-003	0.0000	32.4301	32.4301	2.4000e-004	0.0000	32.4352	
Worker	0.0242	0.0321	0.3030	7.7000e-004	0.0624	4.6000e-004	0.0629	0.0166	4.3000e-004	0.0170	0.0000	55.9231	55.9231	2.8400e-003	0.0000	55.9828	
Total	0.0401	0.1656	0.5008	1.1300e-003	0.0724	2.3700e-003	0.0748	0.0194	2.1900e-003	0.0216	0.0000	88.3532	88.3532	3.0800e-003	0.0000	88.4180	

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Archit. Coating	2.5465						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.0143	0.0940	0.0803	1.3000e-004			7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033
Total	2.5607	0.0940	0.0803	1.3000e-004			7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037	
Total	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Archit. Coating	2.5465						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	0.0143	0.0940	0.0803	1.3000e-004			7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033
Total	2.5607	0.0940	0.0803	1.3000e-004			7.4500e-003	7.4500e-003		7.4500e-003	7.4500e-003	0.0000	10.9790	10.9790	1.1600e-003	0.0000	11.0033

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037	
Total	2.9400e-003	3.9000e-003	0.0368	9.0000e-005	7.5900e-003	6.0000e-005	7.6400e-003	2.0200e-003	5.0000e-005	2.0700e-003	0.0000	6.7964	6.7964	3.5000e-004	0.0000	6.8037	

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5473	1.2067	5.6529	0.0156	1.0725	0.0179	1.0903	0.2868	0.0165	0.3033	0.0000	1,081.1932	1,081.1932	0.0418	0.0000	1,082.0700
Unmitigated	0.5473	1.2067	5.6529	0.0156	1.0725	0.0179	1.0903	0.2868	0.0165	0.3033	0.0000	1,081.1932	1,081.1932	0.0418	0.0000	1,082.0700

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	30.60	30.60	30.60	65,326	65,326
Condo/Townhouse	976.00	976.00	976.00	2,786,776	2,786,776
Total	1,006.60	1,006.60	1,006.60	2,852,103	2,852,103

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

5.0 Energy Detail

5.1 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Percent of Electricity Use Generated with Renewable Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	160.1756	160.1756	6.4500e-003	1.3300e-003	160.7245	
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	191.9745	191.9745	7.7300e-003	1.6000e-003	192.6324	
NaturalGas Mitigated	7.3000e-003	0.0624	0.0265	4.0000e-004			5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	72.2241	72.2241	1.3800e-003	1.3200e-003	72.6637
NaturalGas Unmitigated	9.0700e-003	0.0775	0.0330	4.9000e-004			6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.7850	89.7850	1.7200e-003	1.6500e-003	90.3315

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr											MT/yr					
Condo/Townhouse	1.68251e+006	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.7850	89.7850	1.7200e-003	1.6500e-003	90.3315	
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total		9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.7850	89.7850	1.7200e-003	1.6500e-003	90.3315	

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr											MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Condo/Townhouse	1.35343e+006	7.3000e-003	0.0624	0.0265	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	72.2241	72.2241	1.3800e-003	1.3200e-003	72.6637	
Total		7.3000e-003	0.0624	0.0265	4.0000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	72.2241	72.2241	1.3800e-003	1.3200e-003	72.6637	

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	58649.2	19.1671	7.7000e-004	1.6000e-004	19.2328
Condo/Townhouse	528772	172.8075	6.9600e-003	1.4400e-003	173.3996
Total		191.9745	7.7300e-003	1.6000e-003	192.6324

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	51024.8	16.6754	6.7000e-004	1.4000e-004	16.7325
Condo/Townhouse	439096	143.5003	5.7800e-003	1.2000e-003	143.9920
Total		160.1756	6.4500e-003	1.3400e-003	160.7245

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0281	0.0105	0.9094	5.0000e-005		0.0112	0.0112		0.0112	0.0112	0.0000	90.7992	90.7992	3.1500e-003	1.6400e-003	91.3731
Unmitigated	8.9251	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2547					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7368					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.9060	0.1073	9.7394	3.8000e-003		1.3683	1.3683		1.3683	1.3683	130.1527	54.5841	184.7368	0.1201	0.0102	190.4327
Landscaping	0.0277	0.0105	0.9089	5.0000e-005		5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	1.4797	1.4797	1.4400e-003	0.0000	1.5100
Total	8.9251	0.1178	10.6483	3.8500e-003		1.3733	1.3733		1.3733	1.3733	130.1527	56.0639	186.2165	0.1216	0.0102	191.9428

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
SubCategory	tons/yr										MT/yr						
Architectural Coating	0.2547						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Consumer Products	0.7368						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Hearth	9.0300e-003	0.0000	4.9000e-004	0.0000			6.2400e-003	6.2400e-003		6.1700e-003	6.1700e-003	0.0000	89.3195	89.3195	1.7100e-003	1.6400e-003	89.8631
Landscaping	0.0277	0.0105	0.9089	5.0000e-005			5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	1.4797	1.4797	1.4400e-003	0.0000	1.5100
Total	1.0281	0.0105	0.9094	5.0000e-005			0.0112	0.0112		0.0112	0.0112	0.0000	90.7992	90.7992	3.1500e-003	1.6400e-003	91.3731

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	52.3069	0.2160	5.4600e-003	58.5362
Unmitigated	61.2618	0.2699	6.8000e-003	69.0384

7.2 Water by Land Use

Unmitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.35829	4.9317	2.0000e-004	4.0000e-005	4.9486
Condo/Townhous e	8.20941 / 5.1755	56.3300	0.2697	6.7600e-003	64.0898

Total		61.2618	0.2699	6.8000e-003	69.0384
--------------	--	----------------	---------------	--------------------	----------------

7.2 Water by Land Use

Mitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.27543	4.6309	1.9000e- 004	4.0000e- 005	4.6468
Condo/Townhous e	6.56753 / 4.85979	47.6760	0.2158	5.4200e- 003	53.8895
Total		52.3069	0.2160	5.4600e- 003	58.5362

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	8.8392	0.5224	0.0000	19.8093
Unmitigated	11.7857	0.6965	0.0000	26.4124

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.1	0.0203	1.2000e-003	0.0000	0.0455
Condo/Townhouse	57.96	11.7654	0.6953	0.0000	26.3669
Total		11.7857	0.6965	0.0000	26.4124

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.075	0.0152	9.0000e-004	0.0000	0.0341
Condo/Townhouse	43.47	8.8240	0.5215	0.0000	19.7752
Total		8.8392	0.5224	0.0000	19.8093

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Vegetation

ATTACHMENT B

SCREEN3

SCREEN

03/21/15
21:43:11

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 13043 ***

Sweetwater Village Residential

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	AREA
EMISSION RATE (G/(S-M**2))	=	0.491000E-06
SOURCE HEIGHT (M)	=	3.0000
LENGTH OF LARGER SIDE (M)	=	284.4900
LENGTH OF SMALLER SIDE (M)	=	284.4900
RECEPTOR HEIGHT (M)	=	1.5000
URBAN/RURAL OPTION	=	URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = 0.000 M**4/S**3; MOM. FLUX = 0.000 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
10.	9.494	5	1.0	1.0	10000.0	3.00	45.
100.	11.74	5	1.0	1.0	10000.0	3.00	45.
200.	13.28	5	1.0	1.0	10000.0	3.00	44.
300.	8.079	5	1.0	1.0	10000.0	3.00	45.
400.	5.648	5	1.0	1.0	10000.0	3.00	45.
500.	4.380	5	1.0	1.0	10000.0	3.00	45.
600.	3.576	5	1.0	1.0	10000.0	3.00	45.
700.	3.011	5	1.0	1.0	10000.0	3.00	45.
800.	2.591	5	1.0	1.0	10000.0	3.00	45.
900.	2.264	5	1.0	1.0	10000.0	3.00	45.
1000.	2.002	5	1.0	1.0	10000.0	3.00	45.
1100.	1.789	5	1.0	1.0	10000.0	3.00	44.
1200.	1.612	5	1.0	1.0	10000.0	3.00	45.
1300.	1.464	5	1.0	1.0	10000.0	3.00	44.
1400.	1.337	5	1.0	1.0	10000.0	3.00	43.
1500.	1.229	5	1.0	1.0	10000.0	3.00	44.
1600.	1.135	5	1.0	1.0	10000.0	3.00	45.
1700.	1.053	5	1.0	1.0	10000.0	3.00	45.
1800.	0.9808	5	1.0	1.0	10000.0	3.00	45.
1900.	0.9172	5	1.0	1.0	10000.0	3.00	45.
2000.	0.8605	5	1.0	1.0	10000.0	3.00	44.
2100.	0.8098	5	1.0	1.0	10000.0	3.00	43.
2200.	0.7644	5	1.0	1.0	10000.0	3.00	45.
2300.	0.7232	5	1.0	1.0	10000.0	3.00	45.
2400.	0.6859	5	1.0	1.0	10000.0	3.00	43.
2500.	0.6522	5	1.0	1.0	10000.0	3.00	45.
2600.	0.6212	5	1.0	1.0	10000.0	3.00	43.
2700.	0.5928	5	1.0	1.0	10000.0	3.00	45.
2800.	0.5668	5	1.0	1.0	10000.0	3.00	42.
2900.	0.5428	5	1.0	1.0	10000.0	3.00	41.
3000.	0.5207	5	1.0	1.0	10000.0	3.00	40.
3500.	0.4312	5	1.0	1.0	10000.0	3.00	45.
4000.	0.3667	5	1.0	1.0	10000.0	3.00	35.

					SCREEN
4500.	0.3184	5	1.0	1.0 10000.0	3.00 39.
5000.	0.2809	5	1.0	1.0 10000.0	3.00 45.
5500.	0.2511	5	1.0	1.0 10000.0	3.00 32.
6000.	0.2269	5	1.0	1.0 10000.0	3.00 1.
6500.	0.2067	5	1.0	1.0 10000.0	3.00 4.
7000.	0.1897	5	1.0	1.0 10000.0	3.00 27.
7500.	0.1753	5	1.0	1.0 10000.0	3.00 43.
8000.	0.1629	5	1.0	1.0 10000.0	3.00 40.
8500.	0.1521	5	1.0	1.0 10000.0	3.00 39.
9000.	0.1426	5	1.0	1.0 10000.0	3.00 1.
9500.	0.1342	5	1.0	1.0 10000.0	3.00 1.
10000.	0.1267	5	1.0	1.0 10000.0	3.00 1.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 10. M:
 200. 13.28 5 1.0 1.0 10000.0 3.00 44.

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	13.28	200.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
